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Dr. Joseph G. Swayne.



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Record of the Medical Sciences.

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PREFACE.

IN completing our fourth and concluding volume, we gratefully return our hearty thanks to the profession for the kind, cordial, and annually increasing support which they have extended towards our labours. THE LONDON JOURNAL OF MEDICINE was established to supply what was much wanted in England—a *suitable medium for Original Communications of the highest class*—and none of its projectors regarded it as a mere commercial speculation. Profit never was the aim of this JOURNAL: and, as regards money, we have been contented to strive for the current expenses of publication. So indifferent, indeed, have we been to all selfish interests, that we have not remonstrated when innumerable abstracts and translations from foreign journals, which have cost us both money and midnight oil, have been appropriated periodically for the parasitical press by the lazy stroke of a compiler's scissors.

It is with no small amount of satisfaction that we print the subjoined list of contributors, which cannot, we believe, be equalled in character by any medical periodical which has appeared in England during the same or any similar period.

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TOTAL NUMBER OF CONTRIBUTORS IN			
1849		28
1850	Old.....	14	
	New	18	32
1851	Old.....	17	
	New	20	37
1852	Old.....	19	
	New	21	40

It appears from the above, THAT DURING THE PAST NINE MONTHS OF THIS YEAR, we have had more contributions both from old and new contributors than during any previous complete year.

The following is a list of the contributors to volume for 1852.

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In conclusion, it only remains for us earnestly to commend to our friends, contributors, and subscribers, the important work with which the LONDON JOURNAL is now incorporated; and to express a hope that the New Weekly Series of the JOURNAL OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION may accomplish the useful and noble ends for which that great Society was founded, and which it is so well calculated to fulfil.

At p. 958 will be found an address by the "Journal Committee" of the Association, which merits the attention of all who love and honour their profession. It will be obvious to all that no private journalist could command so much talent, and such entire freedom from the insidious bias of commercial expediency.

London, 1st October 1852.

LONDON JOURNAL OF MEDICINE,

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JANUARY 1852.—No. XXXVII.

ORIGINAL COMMUNICATIONS.

ON THE PHYSICAL EXAMINATION OF THE ABDOMEN IN HEALTH AND DISEASE.

By CHARLES J. B. WILLIAMS, M.D., F.R.S.

(Continued from page 203, in Number for March 1851.)

ACOUSTIC SIGNS—HEALTHY PERCUSSION SOUNDS.

THE acoustic signs of the abdomen are by no means so numerous or so important as those of the chest. The movements of respiration and circulation, and the sounds of the voice, which are the chief causes of the acoustic phenomena of the chest, extend only in an inferior degree to the abdomen; and they have here neither the same facilities for developing sounds, nor the same definite relation to those which actually do occur. Borborygmi of the stomach and intestines sometimes do strike up an accompaniment to the movements of breathing or of the heart that is obvious enough, and too noisy for the comfort of the patient; but beyond the point of showing the presence of air in an intestine deficient in tone, the phenomenon is of little significance. Nor do the spontaneous movements of the abdominal viscera themselves produce sounds of much importance in diagnosis: a few instances, however, will be noticed. By far the most important class of acoustic signs, are those elicited by percussion: these will first claim our attention; and subsequently those arising from the spontaneous movements of respiration, circulation, and peristaltic action, will be briefly considered.

As on the chest, so also on the abdomen, striking with the ends of the fingers produces a sound, varying according to the condition of the walls and the nature of the parts underneath. If the walls are flaccid, it may be difficult to elicit any distinct sound; and even when they are more tense, direct percussion on them yields but a muffled note, and is further objectionable as it may give pain. It is therefore expedient in all cases to use *mediate* percussion; by striking on a thin plate of wood or ivory, or, what answers every purpose, and

is far more convenient, on one or more fingers of the left hand, closely applied to the surface. Now, as this manœuvre both obtains a hard surface from which sound can be elicited, and supersedes any deficient tension in the walls, it affords the means of testing the acoustic properties of the parts underneath, and of thus determining their physical condition. Thus, if we percuss on a finger applied over the stomach or a portion of intestine containing air, we obtain a sonorous note, which we call *hollow*, from the experience that such a sound is emitted from hollow bodies when struck; or *tympanitic*, from its resemblance to the note of a little drum. On the other hand, if we strike over the thick part of the liver, or over the stomach or an intestine filled with liquid, or over the bladder distended with urine, the sound is dull and short, the materials underneath being incapable of receiving or prolonging the sonorous vibration. Again, there are intermediate or mixed stroke-sounds, such as those proceeding from a mixture of air and solid or liquid in the intestines; or from a layer of soft solid overlapping an intestine; and these sounds will vary in every degree, according as the aerial hollow, or the dull sounding liquid or solid, predominates.

In addition to the broad distinction between the hollow and the dull stroke-sounds of the abdomen, we shall find it instructive to analyse the hollow sounds, with the view to learn all that they can teach us of the conditions of the alimentary canal which they represent. The note resulting from percussion over the stomach on a portion of intestine will be deep and sonorous, in proportion to the extent of its hollow containing air. Thus, over the stomach distended with air, a peculiarly loud and deep tympanitic note may be elicited: and this may extend from the left hypochondrium upwards and backwards over three or four lower ribs at the side, and downwards and forwards nearly to the umbilicus. Another frequent situation of a deep full note, yet having its own character, is in the right iliac region over the cæcum; and this note sometimes reaches upwards towards the right hypochondrium. In other parts of the abdomen, over the convolutions of the small intestines, the tympanitic note is commonly much higher in pitch; and although giving the idea of a hollow underneath, represents it as of smaller dimensions. Further, on different spots, this higher note will be found to vary much in pitch and tone, from the different size and form of the cavities in the several portions of the intestinal tube.

Now although these tympanitic notes of the abdomen are subject to great variations, according to the amount of air present in each portion of the canal; yet they generally retain enough of a distinctive character to indicate more or less of the situation and condition of these parts. The fact that is most instructive is this, that each part has its proper note for the time being, however it may vary at different times. Thus, if striking on the cartilages of the lower left ribs elicits a deep hollow note, and precisely the same note is emitted on percussion of the lower ribs several inches further to the left, and of the abdominal walls some inches lower down, we know that the same hollow viscus (the stomach) occupies the whole of this extent. Possibly below the margin of the right ribs, in the same subject, percussion may produce another specimen of a deep hollow sound; but its difference of pitch or tone will show that it is seated over another cavity; and by tracing its limits, we may find it extending downwards on the right side

of the abdomen, in the situation of the ascending portion of the colon. Again, further down still, in the right iliac region, and stretching more or less towards the hypogastrium, we may encounter another deep-toned note, yet of a distinct pitch, proving its origin in a separate portion of the canal, most probably the cæcum. In other parts of the abdomen, we detect the more limited cavities of the small intestines; which are known, not only by the higher pitch of their note, but especially by its varying in key or tone over every two or three inches of surface; indicating the distinctness and limitation of their respective hollows.

It is obvious that sounds dependent on a circumstance so variable as the quantity of air in a given part of the alimentary canal, must be frequently changing their character and position; and it sometimes happens, even during examination, that a volume of air is shifted from one part of the bowel to another, or may be dispersed from the stomach by eructation. So, likewise, we may fail to find any of the deep sounds characteristic of a large body of air in any part of the abdomen, the portions present in the stomach and large intestines not exceeding those in the smaller bowels. Still these exceptions, which apply rather to healthy than to invalid subjects, do not destroy the utility of the general rule, that the deeper tones in the normal state indicate the position of the larger bowels. The best time for observing these distinctions, is as long as possible after a meal; the gaseous contents of the canal then usually bearing the largest proportion to the fluid and solid matters.

Besides the pitch or key of the hollow stroke-sounds of the abdomen, there are often other characters in them, such as a tinkling or metallic ring, or a musical or tubular note; or a modification of these, like the sound of dropping into water. These adventitious sounds are by no means significant in proportion to their loudness; and the best way to understand them and appreciate their meaning, is by tracing them to their true physical causes, as I have endeavoured to do with regard to the sounds of the chest.

The hollow or chest notes of the abdomen consist of one or more of the following elementary sounds:

- I. The proper **TYMPANIC SOUND**, caused by the vibration of the walls of the cavity.
- II. A **METALLIC RESONANCE**, or **TINKLING ECHO**, produced by transverse vibrations of the air in the cavity.
- III. A **TUBE-NOTE**, arising from longitudinal vibrations of the air in one portion of intestine opening into another of larger dimensions.

These several sounds can be produced in the cavity of the mouth also; and as this affords a ready means of experimenting on them and illustrating their nature, we shall find it profitable to describe the parallel sounds thus developed.

1. With the mouth closed, and cheeks moderately inflated, if fillipping percussion (mediate or immediate) be practised on one cheek, a hollow sound is elicited, consisting of two distinct notes; and by varying the distension of the cheeks, the distinction between the two is rendered still more evident. One is deeper in tone, and depending on the vibrations of the cheeks themselves, is most clear when these are

moderately inflated, so as to be free to vibrate; it is fainter and raised in pitch by further inflating the cheeks, which by tightening them both, shortens and quickens their vibrations. This is the proper *tympanic sound*, being produced by the vibrations of the extended walls, like those of the parchment of a drum.

2. When the cheek is percussed in the manner just described, the deeper tympanic sound may be observed to be accompanied by a note of much higher pitch, of somewhat tinkling or metallic character; and this becomes more distinct, and somewhat lower in tone, on further inflating the cheeks, which has exactly an opposite effect on the tympanic sound. This acute note is like that of a china cup when struck; it depends on the vibrations of the air contained in the cavity; and these being reflected from side to side, produce a note varying with the diameter of the cavity. This is the *tinkling echo*, or *metallic note*. Like the metallic tinkling of pneumothorax, it is a true echo note, the shrill key of which is precisely determined by the rapidity with which the vibrations of the air are reflected backwards and forwards from wall to wall. Such a tinkling echo accompanies all impulses and noises communicated to the interior of smooth and free cavities containing air, and having little or no outward opening. A similar sound is heard on applying the ear to the bung-hole of a barrel, where the pitch is lower, and the reverberation prolonged; or to the mouth of a bottle of glass or india-rubber, in which it more resembles that of the mouth or intestinal canal.

3. The *tube-note* of the mouth is produced by striking the cheek with the mouth open, as for the pronunciation of the vowel O. This is the loudest and most musical of the three classes of sound, its pitch being readily determined by varying the size either of the cavity, or of the aperture at the mouth. This sound depends on the longitudinal vibrations of the air in the hollow of the mouth, which are less frequent, and the tone is deeper in proportion to its depth and the smallness of the opening. It is like the tubular note of the trachea in health, and that of the large bronchi in condensation of the lung.

The hollow percussion sounds of the abdomen consist of varieties or combinations of one or more of these several elementary sounds, especially the two first. In large cavities, as those of the stomach and large intestines, the most obvious is the tympanic sound, more or less deep in tone, produced by the vibration of the walls of the cavity. But on listening more closely, or with the ear or a stethoscope applied to the abdomen when the percussion is made, the tinkling echo of the interior may often be distinctly heard, and the more so, the nearer the bowel approaches to the surface, and is in a state of distension. Where a large portion of intestine is less distended, the drum sound is deeper in tone, with little or none of the tinkling echo. On the other hand a small portion of intestine much distended, yields a high tympanic note, more or less blended with its metallic accompaniment. A small intestine containing a moderate amount of air, gives a medium tympanic note with little or no tinkling; and this is the kind of sound commonly elicited over the region of the small intestines, the note somewhat varying, as before described, over each knuckle of intestine.

It may be questioned whether the third description of sound, the *tube-note*, is ever developed in the intestinal canal, seeing that it im-

plies that the tube is open at one end. However, I have sometimes elicited a note so very musical and tubular in character, generally over the region of the small intestines, as to make me suspect that it might be produced in a short tube of intestine opening into another of larger dimensions.

The tympanic note of the stomach and intestines may be further modified by the presence of liquid or solid matter in addition to the air. Thus percussion, and still more abrupt pressure over a part containing air and liquid, may cause a sound of gurgling, or obscure bubbling, in addition to the drum note; and this gurgling being accompanied by the metallic echo of the cavity, acquires the somewhat musical note, termed by M. Piorry, "humorique".¹ Many years ago, I explained the cracked metal sound in the chest (*bruit de pôt fêlé* of Laennec) on this principle. This sound of liquid and air is most commonly heard in the region of the stomach and cæcum; but it is sometimes met with in the course of the small intestines. It is usually attended with some feeling of gurgling under the fingers; and by various degrees and kinds of pressure, the presence of the liquid may be made more obvious to the ear or stethoscope applied. The gurgling noise thus occasioned, will be observed to be more or less accompanied by the metallic echo wherever there is a considerable body of air present, and the liquid, by the noise that it thus makes, affords an additional means of manifesting the echo; but neither in this case, nor in the analogous one of metallic tinkling within the chest, is the presence of liquid essential for its production, as was imagined by Laennec.

If there be much liquid, and little air in a portion of bowel, the tympanic or metallic sound will be circumscribed in extent, and high in pitch, usually occupying the higher part, the rest having the dead dull stroke, and the soft heavy feel of liquid. Thus the clear sound of an empty stomach, which is deep in tone in proportion to the quantity of air in it, after a full liquid meal is replaced by more or less dulness at and below the margins of the left ribs, whilst a clear and rather high-keyed tympanic note, almost tubular in character, may be heard at the lower ribs.

The soft matters which constitute the more solid contents of the alimentary canal, are calculated also to deaden the clear percussion sounds, but in a manner different from that of liquids. Rarely entirely superseding the air, they obscure, but do not destroy, the tympanic note. They however completely stop the metallic echo, the vibrations of which are as easily checked by soft and inelastic matters in the cavity, as the echo of a room is by drapery. The dispersion of a considerable amount of pultaceous matter throughout the intestines, blended as it always is with more or less gas, occasions the duller degree of tympanic resonance commonly met with in cases of torpid bowels, which may be free from the clearer and metallic notes, unless there may happen to be a large accumulation of air in any particular part. This more diffused and uniform resonance has some resemblance

¹ M. Piorry has, however, confounded under this term some of the loud intestinal sounds of high pitch, which I have before referred to the tympanic note and accompanying metallic echo of a membranous cavity containing air only, as in the example of the inflated cheeks.

in tone and origin to the pulmonary stroke-sound, which equally excludes clear tympanic, and metallic notes.

It may be collected from the preceding description, that throughout the abdominal regions generally, the tympanic sounds in some of their modifications prevail, except where temporarily superseded by a considerable bulk of liquid in a part, or parts, of the alimentary canal. The tympanic or intestinal region is bounded above by the dulness caused by the liver; this, in health, extends nearly along the margin of the right ribs, and more commonly an inch or so below than above them; at the epigastrium, it frequently occupies from one to two inches below the ensiform cartilage, and meets the margin of the left ribs, and there terminates below the spot where the apex of the heart beats. But the inferior margin of the healthy liver being thin, it does not abruptly terminate the intestinal and stomachal resonance, but *shades it off* by degrees, from below upwards, into the absolute dulness of the mass of the liver. This gradual transition of the tympanic into the dull hepatic sound is an important sign of the healthy condition of the liver, and corresponds with the absence of any abrupt line of resistance in palpation of the lower margin of the organ. The shading off is more gradual in the anterior margin than at the right side, where the lobe ends more abruptly and with a thicker edge. The practice of percussion to determine the dimensions of the liver requires some delicacy of manipulation, the method of filipping mediate percussion, which I introduced many years ago, being the most exact. If the strokes be made very gently, and carried from the absolute dulness downwards, the diminishing thickness of the liver may be measured with great accuracy, by the increasing clearness of the sound, until the finger passes the margin, and arrives at the unobscured intestinal note.

The stomachal sound to the left of the liver has no such precise limits above it, being more apt to encroach on the mixed sounds of the heart and lung, which form its upper boundary. Further to the left, the stomachal and intestinal note passes into the pulmonary, two or three inches above the margin of the ribs, there being usually a space of imperfect dulness of two or three superficial inches, corresponding with the spleen.

Posteriorly, where the pulmonary resonance at the margin of the base of the lungs terminates, strong percussion may elicit an obscure tympanic sound, which becomes clearer lower down in the loins, until it is again obscured by the iliac bones. The great thickness of the muscular walls, more or less increased by fat, renders it impossible to trace by percussion the position or bulk of the kidneys in a state of health; but their enlargement by disease does sometimes distinctly increase the dulness of the upper portion of the lumbar regions. As before stated, palpation is a far better test than percussion of the state of the kidneys.

Anteriorly, the abdominal or intestinal region is abruptly terminated by the crests of the ilia and the rami of the pubis. Above the latter, a distended urinary bladder may rise and cause a dulness, having superiorly a rounded and rather abrupt margin, one, two, or more inches towards the umbilicus, the dulness being most complete immediately over the symphysis.

Any considerable thickness of fat, or œdema in the walls of the abdomen, necessarily obscures the clear notes of the subjacent viscera, and renders the more delicate distinctions impracticable. But by employing careful mediate percussion, the applied hand or fingers being pressed firmly on the walls, and the strokes being pretty forcible and abrupt, we rarely fail to obtain all the more important results of this method of examination.

In order to distinguish the dulness of fat or œdematous abdominal walls from that of increased density of the contained viscera, it is necessary to practise palpation in the modes already described; and having by these means determined the existence of unusual thickness of the walls, we shall be better prepared to estimate the amount of dulness which it would cause, and to use the degree of pressure and strong percussion which will elicit the resonance of the viscera underneath. Neither extreme flaccidity of the walls, nor rigidity from muscular action, materially interferes with the results of percussion; for this being practised mediately on the fingers, they supply the uniformity of superficial tension adapted, and required for the production of sound.

(To be continued.)

7, Holles Street, Cavendish Square.

ON SUPPURATION IN BONE; WITH CASES OF ABSCESS IN THE TIBIA SUCCESSFULLY TREPHINED.

By HENRY LEE, Esq., F.R.C.S., Surgeon to the Lock Hospital, Assistant Surgeon to King's College Hospital, etc.

CASE I. James Stocker, æt. 26, came under my care at King's College Hospital, on the 16th June, 1851. He then complained of intense pain in the left leg, which had prevented him sleeping, except at very short intervals, for a month previously. The pain continued without intermission, but was aggravated by occasional paroxysms. At such times, it would first be felt in the tibia, extend thence to the knee, and shoot up the thigh to the hip. This shooting pain was of a most excruciating character.

Upon examination, the shaft of the tibia was found enlarged to double its natural size. The enlargement occupied four or five inches of the bone, being most marked in its middle third, but altogether situated nearer the upper than the lower extremity. Pressure upon the swelling caused no uneasiness, nor did the position of the limb in any way appear to affect the character of the pain. No tender point could be detected in any part of the enlargement. When the pain was most severe, he appeared to derive some comfort from walking about; and he would occasionally get up in the night to do so. The pain and want of sleep had evidently given him a careworn appearance: but as far as the different functions were concerned, he appeared to be in perfect health; nor was there any history of his having suffered from constitutional disease.

He stated that, seven years and a half previously, he had, after some slight injury, first experienced pain in the leg. It was then worst at night, but used to leave him at five o'clock in the morning, "as regular as the clock struck". At that time, the pain lasted for nine weeks, and during the whole period was unaccompanied by any tenderness upon pressure. At different intervals afterwards, he experienced some slight return of the pain, but never so as to cause him much inconvenience, till he struck his shin against a chair, about five weeks before he came into the hospital. On the evening after this slight accident, he felt pain in the leg, which he at once recognised as of the same character as that which he had experienced seven years before. In two or three days the pain became so severe that it prevented him sleeping at night. He used different remedies, in the hope of obtaining some relief, but the symptoms continued unabated up to the time of his application at King's College Hospital.

A blister was now placed over the tibia, and was dressed with equal parts of mercurial ointment and extract of hyoscyamus. He was also directed to take four grains of the iodide of potassium in infusion of quassia three times a-day. This treatment was continued for a fortnight, when the pain had in a great measure subsided. He now took more to drink than he was accustomed to do, and the pain returned with all its former severity. It was, however, still unaccompanied by fever, or by any tenderness of the part. The same plan of treatment as before was adopted, and he experienced a remission from his sufferings for about a week. At the expiration of this time, without any apparent cause, the pain again returned, and a repetition of the medicine was not followed, as before, by any marked relief. I now determined to trephine the tibia, and advised the patient to come into the hospital for this purpose, which he did upon the 12th of August.

The operation was performed on the following day. As there was no spot upon the tibia that was particularly tender, a point was selected for the application of the trephine which projected, and which felt slightly hotter to the touch than the rest. A common trephine, with a shoulder, was used, as no other was at hand. The instrument in consequence became buried in the bone, as far as it could conveniently go, before it reached the medullary canal. This depended upon the great thickness and increased hardness of the parts, and caused a little delay in the operation. After removing the trephine and reapplying it, some matter was observed oozing up by its side. A complete circle of bone, three-eighths of an inch in depth, was now removed, and an abscess in the medullary canal presented itself. Mr. Fergusson, who was present, observed the peculiarly white and creamy appearance of the pus. The cavity in which it was contained was about an inch and a half in length, and would have held two or three drachms. There was no portion of dead bone connected with the disease, and the matter was not in any degree putrid. The point at which the trephine was applied was exactly six inches from the head of the tibia.

After the operation, the edges of the wound were slightly brought together and covered with wet lint. The pain ceased as soon as the patient had recovered the immediate effects of the operation, and did not again return. On the 22nd of August, the skin had nearly covered the wound, leaving a small opening leading into the cavity of the bone.

The tibia itself had by this time considerably diminished in size. This patient was sufficiently well to leave the hospital at the end of a month; and in two months, the bone had nearly regained its natural size.

The following case is from notes taken by Mr. Prescott Hewett, during the time he was house-surgeon at St. George's Hospital.

CASE II. William Mowbray, *ætat.* 24, was sent up from the country on the 17th of November, 1838, for the purpose of having his leg removed. His constitution was at that time evidently suffering from disease, connected with enlargement of the head of the left tibia. This was accompanied by constant pain and want of sleep, and was supposed to be connected with some affection of the knee joint. Upon examination, the leg in this situation was found to be nearly an inch more in circumference than upon the opposite side. The swelling, which was prominent and tender at one point, extended for three and a half inches down the inner side of the bone. A dark purple blush occupied the skin, covering its most projecting portion a little below the tubercle.

He stated that, six years previously, he first experienced a dull, heavy pain over the shin bone, which was followed by a swelling below the knee. The symptoms continued unabated for two months, during which time he applied leeches and took medicine. He then changed his residence, for the benefit of fresh air, but the symptoms still continued, and had not entirely subsided for four months more. He now considered himself well, and continued without suffering any inconvenience till three months before his admission into St. George's Hospital. The pain, without any apparent cause, at that time returned, and the upper part of the bone again began to enlarge. Leeches were applied, and mercury given internally, but without benefit. After his admission into the hospital, calomel and opium, sarsaparilla and iodide of potassium, were given in succession, but still without any alleviation of the symptoms.

On the 13th of December, Sir B. Brodie applied a trephine to the head of the tibia, and about three drachms of pus were evacuated from a cavity in the cancellous structure of the bone. This cavity extended upwards to the immediate neighbourhood of the knee-joint. The point selected for the application of the trephine was where the bone was most prominent, and where the greatest tenderness was experienced upon pressure. The operation afforded immediate relief. The man slept well the night following, and from that time improved in health and appearance. In a month, the cavity of the abscess was nearly filled up, and the patient was discharged, cured, on the 30th of January, 1839.

REMARKS. The disease, of which the above cases afford examples, was originally recognised by Sir B. Brodie in the year 1824; and the symptoms, then observed for the first time, have served to distinguish the affection in the cases which have subsequently occurred. The first case recorded was that of a man, twenty-four years of age, who had a considerable enlargement of the lower end of the tibia. The skin covering the swelling was thin, tense, and closely adherent to the periosteum, but the ankle-joint admitted of every motion, and was apparently sound. There was constant pain in the part, generally of a moderate

character, but every now and then becoming excruciating, keeping the patient awake at night, and confining him to the house for many successive days. The disease had been going on for twelve years, and instead of getting better, became every year worse. At length it was resolved to amputate the limb. The lower extremity of the tibia was found to be enlarged, and its surface presented marks of great vascularity. Just above the articulating surface, there was a cavity in the centre of the bone as large as a chestnut, and filled with dark coloured pus. This cavity was smooth internally, and the bone surrounding it was much injected and harder than natural.



Fig. 1. Abscess in lower end of Tibia, with hypertrophy and much increased vascularity of bone.*

In every healthy inflammation the process of adhesion precedes that of suppuration, and pus when formed is consequently limited and circumscribed by lymph previously effused; but in unhealthy constitutions, the requisite power may be wanting to carry out the process of adhesion; and should suppuration then take place, the purulent fluid may permeate from cell to cell in the surrounding parts. These two processes are exemplified on the surface of the body by a common abscess and a diffuse cellular inflammation. In the cancellous structure of bone the actions are strictly analogous, though somewhat more tardy in their development. The products of the inflammation may be limited by the effusion of bony matter, which fills up and obliterates the surrounding cancelli; or the secretions of the part (when the adhesive process is imperfectly developed) may infiltrate the structure of the bone to an unlimited extent. We have thus a natural division of the cases of suppuration in bone into those which are circumscribed, and those which are not: into cases of abscess, properly speaking, and into those of purulent infiltration.

These two classes of cases differ in their causes, progress, and termination. The simple abscess usually originates in young and healthy persons: the infiltration of purulent matter rarely takes place without some present depressing influence, or some former cause of constitutional weakness. The simple abscess is marked in its progress by excessive pain, and may continue in much the same condition for many months, or even years. Diffuse suppuration, on the other hand, may be attended with little local suffering, but very soon becomes the cause of much general excitement, and leads to the formation of disease in other parts. The termination of circumscribed abscess is generally favourable, however long it may have lasted, provided the matter be evacuated externally: whereas purulent infiltration in bone is usually fatal.

* For the drawings from which the accompanying figures are taken, and for much assistance in other ways, the author is indebted to Mr. P. Hewett, of St. George's Hospital.

Chronic abscesses require moreover to be carefully distinguished from cases of softened tubercle, with which they appear to have been confounded. In the excellent memoir of M. Nélaton, published in Paris in 1837, we find the following description of encysted tubercle in the extremity of long bones. "When an encysted tubercle is developed in the extremity of a long bone, it is at first confined in the centre of the cancellous structure, not far from the articular extremity. It gradually increases, and approaches on one hand the cartilage, and on the other the circumference of the bone, external to the joint. If in the progress of its development it reaches the exterior of the bone, it escapes into the surrounding cellular tissue: an abscess is there formed, which increases and empties itself externally, leaving a fistulous communication with the interior of the bone. But if, on the contrary, it makes its way towards the articular surface, the cartilage with which it comes in contact is perforated, and the tubercular matter empties itself into the joint." M. Nélaton says that he has seen several examples of this unfavourable termination of the disease; and his observations are narrated with so much circumstantial detail, that we cannot doubt that he has actually traced the processes which he describes, and has related that which he himself has witnessed. But the cases of crude tubercle in adult bone to be found in our museums are so rare, we cannot but think that the frequency of its occurrence has been greatly exaggerated, and that M. Nélaton, and other continental writers, have included cases of softened tubercle and chronic abscess under one common description.

Chronic abscess may probably occur in any bone of the body. In the museum of the College of Surgeons there is a specimen where it had taken place in the clavicle; and Mr. Arnott has mentioned an instance of its having occurred in the femur. At King's College Hospital a case lately presented itself, where a circumscribed abscess had formed in the lower jaw, the bone around being greatly condensed and thickened. By far the majority of cases of chronic abscess, however, occur in the tibia, and almost always in the upper or lower extremity of that bone. The first case above related offers a peculiarity, the part affected having been towards the middle of the shaft.

When an abscess is formed in bone, important changes occur in the surrounding parts. The periosteum and adjacent bone become inflamed and thickened. This is followed by the formation of new bone, both in the cancellous structure, and on the surface of the original bone. The bony matter thus secreted corresponds to the deposition of lymph around an abscess in soft parts. That which is formed on the surface of the bone is readily recognised. It is disposed in layers, or in small irregular masses (fig. 4), and never presents the fibrous structure of the original bone. This deposition may go on, as the bone in immediate contact with the pus is absorbed; so that, although the abscess is gradually making its way externally, it remains covered with the same thickness of bone as before.

Deposition of new bony matter occurs much more readily around the spongy extremities than upon the compact shafts of bone. In the former situation, it may take place to such an extent, as to render it very difficult to say precisely what part of the bone was originally affected, and a trephine applied under these circumstances may fail to reach the seat of the disease.

The accompanying wood-cut represents a case in which the trephine

was unsuccessfully applied, and where the disease consequently remained uncured. It also shows the fibrous membrane which occasionally, but by no means always, lines the cavity of the abscess. A similar cyst has been observed in cases of deposit of crude tubercle by M. Nélaton. It is at first gelatinous and semi-transparent; but subsequently becomes firm and unyielding. Examined externally, it presents a rose-coloured tint, dependent upon the vessels extending to it from the neighbouring bone. When macerated for several days in water or alcohol, it is found to be composed of white unyielding fibres interlaced in every direction, and resembling in some respects the structure of the capsular ligaments of joints. In other cases, the abscess is enclosed in every direction by condensed

Fig. 2. Abscess in upper end of Tibia, containing putrid pus and dead bone; trephined unsuccessfully. The cavity lined by a dense membrane.

bone, which, when injected, presents a number of small bright red patches, giving, at a distance, the appearance of a continuous vascular layer.

After a circumscribed abscess is formed in bone, the parts around appear to accommodate themselves to its presence. This is accomplished, not by the fibres of the bone being pressed asunder, but by an actual absorption of the osseous substance. The intense pain experienced depends, doubtless, upon the extreme tension maintained upon the unyielding structure, and every fresh accession of pain results from a fresh secretion of fluid. The influence of some medicines in restraining the symptoms may probably depend upon their power of promoting the absorption of the more fluid part of the abscess. Thus we find that the iodide of potassium, given in doses of three or four grains, will sometimes be followed by a temporary abatement of the pain; and it would appear from the cases recorded, that, after the first attack of pain, the symptoms may remain in abeyance for almost an unlimited period, until some accidental cause produces a fresh secretion

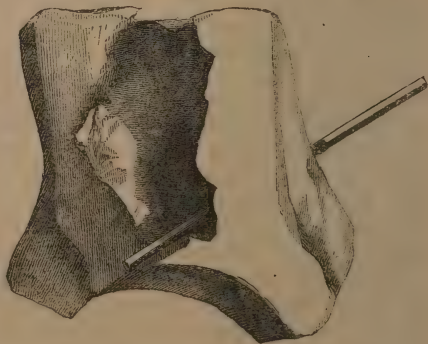


Fig. 3. Abscess in lower end of Tibia, opening externally.

of fluid. The cavity of the abscess then again becomes distended, and the pain of compression returns. The pressure of the fluid operates on all sides equally, and tends to cause absorption in every direction. But this is counteracted by the constant tendency to the deposition of new bone. A process analogous to the pointing of an abscess in soft parts not unfrequently takes place; the ulceration affects one point of the walls of the abscess particularly, and an opening may thus be formed, through which its contents are evacuated externally.

In other cases, the process of deposition goes on in the whole circumference of the bone as rapidly as that of absorption, and the abscess cannot then make its way externally. The compact structure of the shaft of the bone also prevents it extending in that direction; the articular surface is then the only one towards which the abscess can extend. No fresh layers of bone can here be deposited, and the fluid consequently makes its way towards the joint.

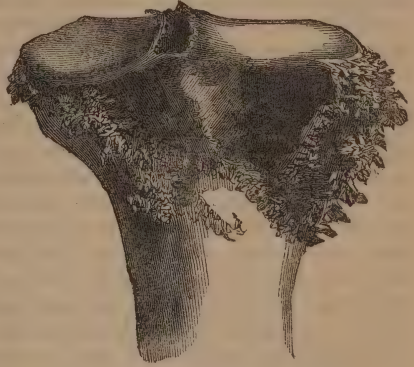


Fig. 4. Abscess in Tibia, opening into knee-joint.

The cartilage has been observed in such cases to be affected in two ways: either perforated, so as to allow the matter to escape directly into the articulation, or absorbed over a large surface without suppuration. In a case of the latter kind, recorded by Sir B. Brodie, the cartilage covering the head of the tibia in some places was perfect in its structure, but it existed only in narrow stripes; in other parts, it had degenerated into a substance something like condensed cellular membrane; in others, the only vestige of it was a kind of membrane, so thin, that the bone could be seen through it; and in other parts, the surface of the tibia was completely exposed, but not carious.

13, Dover Street, Piccadilly

SOME PRACTICAL OBSERVATIONS ON THE PATHOLOGY, MODIFICATIONS, AND TREATMENT OF CROUP.

(Read before the Harveian Society, November 6, 1851.)

By JAMES BIRD, A.M., M.D.

FEW infantile affections can more excite the fear of friends, or awaken the interest of the medical attendant, than the "croupy respiration" of children; nor are there many on the subject of which more contradictory pathological and therapeutical opinions are still entertained. In the estimation of some, this alarming and fatal disease is an inflammation of the larynx and trachea, terminating in the rapid formation of pseudo-membranous exudation, by which the air passages are blocked

up, and life extinguished; requiring therefore, if we would save our patients, the heroic and decisive practice of bleeding, blistering, and calomel. In the opinion of others, again, it is a spasmodic, nervous, and comparatively harmless complaint; aggravated, rather than relieved by such debilitating treatment, and requiring for its cure gentle emetics, moderate counter-irritation over the parts which form the seat of disease, aided by quinine, alkaline diuretics, and country air. Such extreme and exclusive views, founded rather on the result, or morbid appearance under which the disease sometimes manifests itself, than on a consideration of the causes and morbid processes of which the exudative form is the consequence, may be truly designated the *mon-oculism* of medical optics; whereby the therapist, without chart or compass for his guidance, and with a dim and glimmering knowledge of his course, is sure to wreck the vessel of his professional character. The human organism, on which we habitually exercise our curative skill, is subject to so many contingencies of internal and external influences, which ought to be all duly estimated in our properly exercising the profession of rational medicine, that we need scarcely wonder at the ready acceptance and favour with which the homœopathic aphorism, "*Similia similibus curantur*", has been received by some of the indolent, the ignorant, and unphilosophical members of what must be a laborious if a scientific profession. In following out its practical part from such principles, the mind must not be singly fixed on the *morphological* characters of diseases, but take into account their *pathogenic* origin, connected, as such may be, with an hereditary or acquired constitutional tendency, influenced by the dryness or humidity of the atmosphere, by season, climate, and locality. From a neglect of such considerations have proceeded much of the scanty information and erroneous views which have been entertained by many respecting croup, which differs in symptoms and morphological results according as the patients are of the plethoric or the anæmic constitution, the sanguine or the nervous temperament, with the consequent disintegrated condition of the blood brought about by humidity of climate or situation, and previous diseases of constitutional type. Hence, in dry healthy situations, and among children of the wealthier classes, we will generally have croup, with predominance of spasmodic symptoms, or *laryngitis stridula*; and among the poor, living in low, damp localities, croup will generally present itself associated with diphtheritic exudation, on the fauces or into the windpipe. Much of the discrepancy of opinion which prevails regarding this disease, between the French writers and those of this country, may be traced to a want of consideration of the differences of living, climate, and locality under which the characteristic modifications of croup originate in France and in England. In the former country, and even in America, the greater prevalence of the diphtheritic forms of the disease, proved by their higher rate of mortality, are evidently caused by the low, damp, and malarious nature of the localities, the marshy banks of lakes and rivers, where primary diphtheritic croup has been most commonly observed and described. In England, however, as well as in India, we meet with an idiopathic inflammation of the larynx and trachea, associated with well-developed spasmodic symptoms, simulating pure "*laryngismus stridulus*" yet not necessarily terminating by 'the

exudation of lymph into the air passages, when timely subdued by vigorous treatment, but of which heroic depletion by leeches need form no part. Such only promotes the disintegration of the blood, and the separation of its lymph by the mucous membranes; in the same manner probably as fibrinous depositions from the blood take place in cases of *endocarditis*. This, the spasmodic primary croup of some authors, the “*laryngitis stridula*” of others, occurs among children of rheumatic or scrofulous constitutions; and is accompanied by swelling and redness of the fauces, with copious deposit from the urine of white urate of ammonia. Primary croup, therefore, may be divided into *laryngitis stridula*, and *laryngitis membranacea*; these being, however, but stages of the same disease.

The first may be distinguished from *spasm of the glottis*, or *laryngismus stridulus*, by its spasmodic symptoms having been preceded by a catarrhal stage, by hoarse voice, a peculiar ringing cough, sibilant respiration, and crowing sound both during inspiration and expiration. In spasm of the glottis there is no catarrh, no swelling of the fauces, no cough, the voice unaltered, and inspiration only difficult. *Laryngitis membranacea* may be also *secondary*, following either measles or scarlatina; and is characterised by ash-coloured or whitish membranous exudation on the tonsils and palate, extending to the larynx and trachea, and adding thus a formidable complication to the original affection.

Primary croup generally sets in with febrile symptoms, and may be divided into three stages: first, the catarrhal, or febrile stage; second, the spasmodic stage; and third, the stage of exudation.

CATARRHAL STAGE. After sneezing, lachrymation, and cough of some days' duration, the child becomes cross and feverish towards evening, the skin hot, the thirst increased, and the pulse frequent, accompanied by hoarseness of voice, or a peculiar ringing cough. If we examine the throat, the tonsils and fauces will be found swollen, red, and vascular, covered by an increased secretion of viscid mucus; the tongue yellow, loaded, or white and furred, with symptoms of some degree of tenderness in the larynx on pressure. Sometimes these symptoms abate towards morning, and experience an exacerbation towards evening, thus presenting some of the features of infantile remittent fever.

SPASMODIC STAGE. The duration of the precursory stage is variable, sometimes lasting a day or two, and sometimes only a few hours. The transition from it to this stage is generally gradual, though it may be sudden and unexpected towards night, particularly when easterly or north-easterly winds are prevailing at the time. The child, who may have gone to sleep as usual, awakes suddenly in a state of alarm with well-marked dyspnoea, stridulous or crowing respiration, and hoarse ringing cough. The face is flushed, the breathing short and hurried, the skin hot and dry, the pulse full and frequent, and the cough suffocative and ringing. The inspiration is prolonged and stridulous, followed by short forcible expiratory efforts. The little patient is fretful and restless, tossing about in much agony, and frequently grasping the throat, as if to remove from there some source of obstruction. Sometimes the stethoscopic signs are of a negative character, but sometimes a sonorous or mucous r le, accompanied by a

feeling of vibration under the hand applied to the chest, exists in cases where bronchitis complicates the laryngeal affection. In these instances also, much epigastric tenderness usually marks a considerable degree of gastric irritation.

STAGE OF EXUDATION. The symptoms characterising the second stage, and which, with the fever, increase towards night, may for several days experience a morning remission, continuing the greater part of the day. No decided marks of amendment, however, take place; and while the intermissions become less distinct, the cough more difficult, the voice more suppressed, the respiration is sibilant, accompanied by livor of the lips and countenance, coldness of the extremities, and clammy sweats on the surface; thus marking the advance of the disease, and the period of lymphatic exudation from the mucous surfaces of the larynx or trachea. The agony of oppressed breathing increases, accompanied by a feeling of suffocation, and the child expires in a state of convulsion or of coma.

COMPLICATIONS AND MODIFICATIONS. In some families, an evident hereditary proneness to this complaint exists, so that all infantile members of them are, at successive periods of life, liable to some of the various forms or modifications of the disease under which it appears in infantile constitutions. Sometimes during teething, these children, who are generally of a lymphatic irritable temperament, have successive attacks of *laryngismus stridulus*, unaccompanied by any marked inflammatory affection of the larynx. At a more advanced period, the same children, when exposed to the morbid influence of external agents, such as cold and moisture, are attacked by more severe affections, or true *laryngitis*, accompanied by severe spasmodic symptoms. The occurrence, also, in advanced infantile life, of an acute inflammatory croup, among plethoric children of sanguine temperaments, may be seen in Scotland, as described by well-known and trustworthy authors; but such is, I think, rather exceptional than common. I have never seen elsewhere a case of this kind in the course of my own experience. The ordinary attacks observed both in India and in this country, have been those commencing with catarrhal affection, cough, fever of a remittent type, and predominant nervous symptoms, caused by inflammatory hyperæmia of the extremely sensible laryngeal mucous membrane, associated with irritability of the laryngeal muscles. The complications with which I have seen the affection associated, have been gastro-enteric affection, bronchitis, and diphtheritic exudation both on the tonsils and posterior part of the pharynx. In the gastric complications, the child seemed to have tenderness and pain at the nape of the neck and base of the skull, produced, no doubt, by the peripheral irritation from the stomach and intestines, communicated through the pneumogastric nerves to the base of the brain, and thence reflected on the larynx by its branches, the recurrent laryngeal nerves. With diphtheritic complications of the tonsils and pharynx, the same unhealthy exudative process may extend to the larynx, its mucous membrane being but a continuation of that of the mouth and pharynx. In my own practice, however, there has been no experience of this extension, timely attention having been given in all cases to subdue the pharyngeal affection by the application of tincture of iodine to the parts. Bronchitic complication is the one most frequently seen; and

as the symptoms of croup or bronchitis may predominate, giving the attack a corresponding and defined character, the medical attendant's attention must be directed to the peculiar characteristics of each, keeping steadily in view, throughout the treatment, whether these merge into well-marked croup, or degenerate into pure bronchitis. The following is an instance in which the gastro-enteritic and bronchitic symptoms greatly predominated over those of croup.

CASE I. J. A., aged thirteen months, of a lymphatic temperament, fat flabby make, and anæmic constitution, was attacked, on the 21st October 1827, by catarrhal symptoms, accompanied by cough, ill-defined fever, occasional vomiting of mucus, and nocturnal restlessness. His mother gave him some calomel with camphor, followed next morning by a purgative of castor-oil, and rubbed into his chest some strong liniment. The febrile symptoms had a nocturnal exacerbation, with a corresponding morning remission, so that the child appeared pretty well during the day, and his mother was not therefore alarmed. The voice became husky, and the cough hoarse and ringing on the 24th. I was called to see him, and ordered a large warming plaster to be applied over the chest and epigastrium, after the use of a warm bath; the calomel, with camphor, to be repeated at bed-time, followed by castor-oil in the morning, as before. On the night of the 28th, he had a severe attack of stridulous breathing, accompanied by hoarse ringing cough, much heat of skin, and other febrile symptoms. He was put into a warm bath, without deriving much benefit from it; but six leeches having been afterwards applied to the upper part of the chest, a considerable quantity of blood was abstracted, giving great relief to the respiration, which became free and easy. During the night, however, the bandages having given way, the little patient lost a large additional quantity of blood, by which his strength was greatly reduced. On the 30th, the respiration was more natural, but the cough very frequent and troublesome, the expectoration of stringy mucus, painful and difficult, and the pulse 160. A blister was applied over the chest and epigastrium, and having risen well, gave great relief. Some additional calomel was also given; and beef-tea, or arrowroot with a little wine, in addition to the nurse's milk, was ordered. On the night of the 31st, the gastric and bronchitic symptoms appeared subdued, but the patient was very faint and languid, and had a convulsive fit. The Indian station at which the parents resided being on an elevated table land, where the weather was hot and exhausting at the time, I got them to remove the infant to a more elevated and cooler site on the 31st October. The removal was at first attended by a favourable change of symptoms. Towards the evening of the 2nd November, however, he had an obscurely marked febrile exacerbation, followed by coma; and though the laryngeal and pectoral symptoms had been subdued, he died on the following morning, the 3rd November.

EXAMINATION AFTER DEATH. On examining the *head*, the pia mater was slightly congested, and the brain softened from the œdematous infiltration of serum into the cerebral texture.

Chest. The lungs were natural in texture, and collapsed almost freely, but the bronchi and air-cells were filled with a considerable quantity of thick frothy mucus. The larynx and trachea were ex-

amed, and found somewhat more vascular than natural, without any fibrinous exudation on the mucous surface.

Abdomen. The cellular substance covering the abdominal muscles contained much fat. The liver was of a bright red colour on a pale ground, interspersed with ash-coloured streaks. The stomach and small intestines, which were much contracted, contained nothing but thick mucus. The mesenteric glands were vascular and enlarged. The bile in the gall bladder was of a dark olive colour.

The untoward loss of blood in the above case, occasioned by the loosening of the bandages, seemed to have so reduced the patient's strength, as to increase constitutional irritability, and tendency to convulsion; so that, though the prominent symptoms of bronchitis were subdued, cerebral congestion followed the febrile exacerbation on the night of the 2nd, and ended by œdematous infiltration into the substance of the brain, causing death on the following morning.

The next case, brought forward in clinical illustration of the remarks made on the subject of croup, was one treated in this country: and though the gastric and bronchitic symptoms were equally, if not more, aggravated than in the preceding case, a less exhausting mode of treatment was found capable of subduing them, without reducing the solid constituents of the blood to such a degree as to cause fatal serous infiltration into an important organ.

CASE II. M. S., a stout healthy child of two years old, living in the neighbourhood of Regent's Park, who had been suffering some days previously from catarrhal symptoms, was attacked on the 1st February 1850, by hoarse ringing cough, stridulous respiration, epigastric tenderness and fever, accompanied by indications under the stethoscope, that the lungs were affected by bronchitis. The fauces were red and swollen, and the pulse quick and rapid. The child's eldest sister had been suffering from a troublesome cough, which, coming on in fits, had some of the characteristics of whooping-cough; and I therefore suspected that the present attack might be only the prelude of a better developed form of the same disease. After the use of a hot bath, which somewhat relieved the stridulous respiration, two drachm-doses of ipecacuan wine, sweetened with sugar and diluted with water, were given every twenty minutes, till free vomiting was produced. The operation of the medicine was attended by the discharge from the stomach of large quantities of stringy mucus, followed by marked relief to the respiration. A turpentine and pyroligneous acid liniment was applied anteriorly over the chest and epigastrium; and posteriorly from the nape of the neck downwards between the shoulders, till free counter-irritation and redness of the skin had been produced. The respiration became much more natural, though the cough continued troublesome. Mercury and chalk, with James's powder, having been given at bed-time, followed by castor-oil next morning, the bowels were freely moved; the stools being dark and bilious. Next day towards evening, there was a slight return of the stridulous breathing, when the turpentine liniment was again used to the chest, and the ipecacuan wine repeated to produce vomiting as before. From this date, decoction of senega, with spirit of nitrous ether, ipecacuan wine, and syrup of poppies, was given thrice daily in divided doses, and was followed by copious expectoration of stringy mucus from the throat.

On the 8th day, the child being greatly better, though troubled by cough, was sent for change of air to Brighton, where well-developed symptoms of whooping-cough appeared, but from which soon after it completely recovered. Luckily in this case, though the patient was stout and healthy, and bronchitis present, no leeching was deemed advisable—a suspicion existing, from the predominance of the spasmodic symptoms, that the attack was one of masked whooping-cough, as was afterwards proved by the result.

In the next case, there was no bronchitic complication; but the laryngeal inflammation being the return of a former attack, and being associated with ill-defined remittent fever, seemed, from the persistence of the symptoms, somewhat disposed to run into the stage of exudation.

CASE III. A. G., a stout leucophlegmatic child, two and a half years old, residing in the neighbourhood of Westbourne Terrace, and who had had croup in the previous year, was again attacked, on the 29th May 1851, by hoarse ringing cough and stridulous breathing, accompanied by swelling and vascular redness of the throat and fauces, and a puffy livid appearance of the countenance. For a short time previous to the present seizure, he had been labouring under catarrhal febrile symptoms. Prior to my seeing him, the nurse had put him into a hot bath, which produced a soft and perspirable state of the skin, and considerably subdued the stridulous respiration. The bowels had been freely opened by medicine the previous forenoon; and the urine, which was passed of a straw colour, threw down a copious white precipitate of urate of ammonia. On examining the gums, I found that two molar teeth were just penetrating. Six drachms of ipecacuan wine were given in divided doses, till free vomiting of mucous matter followed; and the turpentine and pyroligneous acid liniment was applied to the throat and sternum as in the previous case. During the night, the child had another fit of stridulous breathing, when the ipecacuan wine was repeated to vomiting, and with good effect. On the 30th, the bowels were copiously moved, and the respiration was easy, and nearly natural during the day. It became stridulous again towards evening, when the ipecacuan wine was given with relief. His cough was still hoarse and ringing on the 31st, when two dessert-spoonfuls of senega infusion, with nitrous ether, tincture of squills, and ipecacuan wine, were given three times daily. On the 1st of June, copious bilious yellow motions followed the administration of mercury and chalk with castor-oil. He was convalescent till the 19th June, when a fresh exposure to cold brought on a return of dyspnoea and croupal cough. The same system of treatment was repeated, with the effect of subduing the symptoms, excepting the obscurely marked ones of fever, which suffered an evening exacerbation and morning remission, accompanied by languor and drowsiness. For these, a mixture of nitrate and bicarbonate of potass in camphor julep, united with nitrous ether, was given three or four times daily, till the kidneys were freely acted on. The drowsiness and languor were subdued; but the patient looking pale and anæmic, small doses of sulphate of quinine, with sulphate of iron, were given, and a change to Tunbridge Wells recommended. He left London on the 26th June, and returned on the 25th July, much improved in health, having regained his ruddy look and firmness of flesh.

The next case is one of secondary croup, associated with scarlatina

anginosa, kindly sent, along with the morbid preparation of the larynx, by Mr. Britton, of Henry Street, Avenue Road, who performed the operation of tracheotomy.

CASE IV. Mary C., aged 3, was attacked with symptoms of scarlatina anginosa, on the 4th March, 1850; and on the 8th, symptoms of croup came on, which rapidly increased, in spite of emetics, leeches, and calomel. At the end of twenty hours from the commencement of the attack, the breathing became so much oppressed, as to threaten immediate suffocation; and in order to give the little sufferer a chance of life, tracheotomy was performed with the consent of the parents, followed by some mitigation of the symptoms. The little sufferer lived nineteen hours after the operation. The morbid preparation shows an exudation of thick false membrane into the larynx and part of the trachea.

PATHOLOGY. The mucous membrane of the larynx and trachea has, in the generality of cases, been found in a state of bright red hyperæmia; more particularly around the follicular orifices, which pour out, (like the dilated intestinal follicles in like states of dysenteric vascularity,) a thin fibrous membrane, which coagulates on the inflamed surface. This membrane, which, at advanced stages of the disease, has been found detached by a return of the natural mucous secretion of the part which separates it from the original mucous structure, and prepares it for excretion; as in those cases of dysenteric tubular membranes sometimes detached in diphtheritic dysentery, and which were long supposed to be portions of the original intestinal structure. In the more asthenic forms of the disease, prevailing in large cities and in low, damp, malarious localities, the mucous membrane, which has been found pale beneath the exuded diphtherite, presents ecchymosed patches at its follicular orifices, which are surrounded by an areola of hyperæmiated arborescent vessels, as in other similar states of diphtheritic exudation and disintegrated conditions of the blood associated with low vitality: an index of which may be found at this stage of the disease, in the large quantities of urate of ammonia excreted by the kidneys. Along with the deposition from the blood of its fibrinous elements, and the consequent secretion of them by the mucous crypts, there is a corresponding diminution of the red blood-discs, with accompanying increase of irritability and loss of power in the system. This membranous exudation, which is characteristic of the disease, is associated with febrile symptoms of a sthenic or asthenic character, according as it is of a primary or secondary origin; but in all cases, the particular type of the fever, and the plethoric or anæmic condition of the patient must be taken into account, before we presume to come to any opinion as to whether the exudation be of a high or low degree of vitality, and capable of vascular organisation. In general, it seems to be of the low kind, existing in conjunction with much irritability and spasmodic action of the muscles of the larynx and transverse membranous fibres of the trachea, by which the air passages are momentarily contracted or closed. Such muscular irritability is often much increased, in proportion as cerebral congestion is produced by sources of peripheral irritation, either in the respiratory or alimentary mucous surfaces; giving rise to complications of bronchitis, or to gastro-enteritic disease.

TREATMENT. The indications of cure in this alarming disease are, First, to allay the spasmodic irritability of the laryngeal muscles and fibres of the trachea, by which the air passages are contracted, and the respiration rendered stridulous; Second, to subdue the inflammatory hyperæmia of the mucous lining of the larynx and air passages, and thus prevent the secretion from its follicles of false membrane; and, Third, on the failure of these measures, to procure the discharge of the false membrane, and support the strength.

The *first indication* will be more immediately and best fulfilled by the use of a hot bath; whereby the cutaneous capillary action is greatly increased, and perspiration encouraged, with the effect of subduing the internal hyperæmia and accompanying irritation with which the respiratory and alimentary mucous surfaces are often simultaneously affected; which irritation is reflected on the larynx, through the pneumogastric and recurrent laryngeal nerves. This will be beneficially followed up by the free emetic operation of ipecacuan wine, which, while it actively promotes the excretory function of the skin and the bowels, mechanically relieves the vascular congestion existing in the mucous lining of the bronchiæ and throat. If the bowels be not freely moved by this medicine, mercurials, with James's powder and castor-oil, should be given, till their free purgative effect be obtained.

If the croup appear to be of the truly sthenic inflammatory character, leeching may be sometimes had recourse to in fulfilment of the *second indication*; but infantile constitutions being more irritable, and their vascular system more lax than those of adults, the cases which require bleeding are, I think, rather the exceptions; and in large towns more particularly, this measure should be had recourse to with the greatest precaution. In place of local bleeding, counter-irritation of the throat and chest may be produced by turpentine and pyroligneous acid liniments, mustard poultices, or blisters to the parts; though I decidedly give a preference to the former, as they can be often repeated, just as the state of the symptoms may require. If spasmodic symptoms greatly predominate, they may be also applied from the nape of the neck downwards, between the scapulæ; and in thus tending to relieve cerebral congestion, they particularly promote the fulfilment of the first indication. When there are signs of the local hyperæmia being followed by secretion of fibrous membrane from the disintegrated state of the blood, solutions of nitre and alkalies united with diuretics, will greatly promote the objects we have in view,—to eliminate from the system excrementitious matter, and thus restore the healthy capillary circulation and nutrition of the part affected, so as to obtain a return of its natural secretion. Infusion of senega, combined with nitrous ether, tincture of squills, and ipecacuan wine, seem also to act beneficially on this principle. The local application of tincture of iodine, or a strong solution of nitrate of silver, particularly where there is diphtheritic exudation on the fauces, will be found of the greatest utility in carrying out this indication.

The *third indication*, (founded on the termination of the disease in its third stage,) may be fulfilled by an occasional repetition of the emetics, the nitre, and the alkaline solutions, or senega infusion, with the addition of counter-irritation on the parts, aided by the administration of wine, proper nourishment, carbonate of ammonia,

and other stimulants to prevent collapse. If the exudative process has not at this period extended to the bronchi and pulmonary cells, the propriety of performing tracheotomy becomes a question; and as the operation has saved many lives, it seems not only justifiable but proper, though the success of it be problematical; but, having had no experience of this proceeding myself, I refrain from any opinion as to the circumstances in which it should be had recourse to.

27, Hyde Park Square, 6th November, 1851.

ON THE MANAGEMENT OF CERTAIN SECONDARY FORMS OF DIARRHŒA.

By HUMPHRY SANDWICH, M.D., Physician to the Hull Infirmary.

THE expectant method of the French, and the *nimia diligentia*, or "heroism", of the British school of medicine, is each a practical mistake. The happy blending of the two makes a secure pathway, on which we may firmly tread. But the safe treatment of diseases must equally be based on pathology, and recognise an enlightened observance of the laws and operations of nature. In the absence of these qualifications, men rashly interfere with the remedial efforts of nature, at the expense, perhaps, of both aggravating the malady and obscuring its cause; or, on the other hand, they leave the disease to pursue an unrestrained and fatal career. Avoiding both these errors, we should narrowly watch the order of phenomena, remove obstacles to recovery, and, that we may not thwart the conservative efforts of nature, interpose only when urgent circumstances warrant the interposition.

I propose to consider the treatment of diarrhœa under two general secondary forms—*first*, those in which the blood has been poisoned; and, *second*, those dependent on some local or constitutional source of irritation.

I. DIARRHŒA WHERE THE BLOOD HAS BEEN POISONED. "We can readily understand," says Mr. Henry Lee, "that the appearances and symptoms, which, a few years ago, were so often observed and described as forming a separate disease, under the name of gastro-enteritis, may frequently have been only the secondary results produced by an unhealthy condition of the blood."¹ The truth of this remark must strike every one conversant with the health of large classes of operatives in our principal towns, pent up at night in the crowded apartments of unventilated courts and alleys, and overworked from an early hour in factories, where "the sound of the steam-engine anticipates the cock-crowing of the morning". Amongst these pallid, sickly-looking people, whose nervous energy is below par, and whose blood is poisoned, the secretion of bile

¹ LONDON JOURNAL OF MEDICINE, No. xxxi, July 1851, p. 628.

is generally vitiated, and bowel complaints are frequent. Nor can we doubt, that diarrhœa is often a purifying process of nature in such circumstances. Suddenly to lock up these impure secretions by astringents, might convert a harmless diarrhœa into a dangerous fever. And here I beg leave to allude particularly to the valuable papers of Mr. Lee, *On the Causes, Consequences, and Treatment of Inflammation of the Veins*, as published in several numbers of the LONDON JOURNAL OF MEDICINE. That gentleman, as is well known, has made numerous experiments on animals, by poisoning their blood through the introduction of putrid fluids into the circulation. The results are most instructive, as shedding the strong light of analogy on many cases of febrile diarrhœa. In Mr. Lee's cases, diarrhœa was almost an invariable consequence of the introduction of putrid matter into the blood, and looked like an effort of nature to get rid of the offending poison. For the perfect recovery of the animal, in a few cases, proved the salutary operation of the diarrhœa, and that its effect was to remove the poison from the blood. But I will here quote Mr. Lee's general conclusions from his experimental cases:—

“The general result of the presence of putrid fluids in the system, whether introduced directly into the circulation, or by absorption from serous surfaces, is, as evinced in the foregoing cases, to produce a remarkable affection, peculiarly characterised by congestion of the mucous membrane of the intestines. The evacuations that accompany this condition, are evidently an effort of nature to relieve the system from the vitiated fluids, which have entered the circulation; and it is not a little remarkable, that the mucous membrane of the intestines should in these cases be exclusively affected. The appearances produced may be distinguished from the results of inflammation, in that no thickening or shrinking of the tissues is produced; but they are swollen, congested, and blood-stained, either in petechial spots, in larger patches, or over a continuous surface. The discharge from the intestines, in such cases, consists chiefly of mucus; but this may sometimes be accompanied by a kind of passive hæmorrhage, and occasionally the secretion may assume a puriform character, without any abrasion of the mucous lining of the canal.”¹

Such examples of gross poisoning of the blood as the experimental cases of Mr. Henry Lee, may have exhibited less actual tendency to inflammation than, we may presume, might occur in the milder *remittent and a few other fevers*, in which the atmospheric, vegetable, or animal poison might not so rapidly decompose the blood, and depress vital power, as in Mr. Lee's cases and in fevers of a more malignant character. In fact, inflammation is a frequent accompaniment of eruptive and other fevers, the same disease assuming also a sthenic or asthenic character, according to the intensity of the poison or the epidemic constitution of the atmosphere. It seems probable, therefore, that, in the less malignant forms, congestion would pass more readily into inflammation, or, at least, be accompanied by a less asthenic type of fever. But even in those of the lowest type, diarrhœa is often a salutary process, and not to be checked hastily without the warrant of approaching collapse, or some equivalent reason. That

¹ LONDON JOURNAL OF MEDICINE, July 1851, p. 628.

close observer of nature, Sir John Pringle, in his *Observations on the Malignant Fever*, emphatically says:—"If a *diarrhœa* comes on in the decline of fever, it is to be moderated (but never suppressed) by adding a few drops of the *tinctura Thebaica* to the full quantity of the alexipharmic decoction; or by giving a spoonful or two of the astringent mixture mentioned before. For, though the looseness may be considered as critical, yet, as the sick are too low to bear great evacuations, it must be somewhat restrained: and I have often observed, that when it has been treated in this manner, about the usual time of the *crisis* the patient has fallen into a breathing sweat, that carried off the disease."¹ Soon after follows a remark, which recognises the opinion that the bowels are the outlet for the poison of malignant fever. "In proportion," says he, "to the putrid nature of the stools, astringents are to be used with the more caution." The same high authority, in his observations on *Inflammatory Fevers in General*, remarks, that "there is no caution more necessary to a young physician, than to abstain from all opiates throughout these fevers, however much the patients complain of pain or watchfulness. There may be some exceptions,² but they being few and hard to define, it will be safest to make none besides the following one. If the fever is accompanied with a *diarrhœa* not critical, the looseness is to be gradually checked by *diascordium*, after giving rhubarb, and endeavouring to turn the humours to the skin by the usual diaphoretics."³ He then adds, that "some low and nervous fevers are frequently attended with a looseness, which, though not immediately critical, can never be stopped without danger". We may also quote the opinion of the father of English observers, Sydenham, who in his *Medical Observations on Continued Fever in 1661, 1668, and part of 1669*, which was manifestly a synocha with an inflammatory bias, after having spoken of treating it by bleeding and simple febrifuges, remarks, "the looseness, which often accompanies this fever, does not divert me a single hair's breadth from my plan. I have even found, that nothing is so effectual a check as venesection and cool drinks, like whey, barley-water, etc.; since it is caused by inflammatory vapours passing from the blood, through the mesenteric arteries, into the intestine, and there causing irritation". He then goes on to show, that neither purgatives nor astringents were right remedies. "All this," says he, "made it as clear as the light of day, that the *diarrhœa* was of the same nature and essence with the dominant fever; and this opinion is confirmed by the effect of venesection, and the cooling medicine, regimen, and diet, which I found so advantageous in the fever. They cured the *diarrhœa* as well; whilst, if treated upon a different principle, with rhubarb or lenitive cathartics (given with the view of expelling those acrid juices, which were supposed to irritate the bowels to such

¹ PRINGLE, Sir John. *Observations on the Diseases of the Army in Camp and Garrison*, p. 276.

² We are indebted to Dr. Latham and Dr. Graves for pointing out what are those "exceptions", and for defining the circumstances attendant on a state of continued *pervigilium*, which demand a cautious interposition with opiates. After all, the rule applies rather to typhus than inflammatory fever.

³ PRINGLE, Sir John. *Observations on the Diseases of the Army in Camp and Garrison*, p. 136.

secretions), or even astringents, it changed its character from a mild disease to a deadly one, a fact that is sufficiently proved by the bills of mortality for the year."¹

Whatever imperfection may be attached to the explanation of the facts thus recorded by these great observers, there is too solid a substratum of true medical philosophy at the bottom to admit of the practical advices grounded on them being easily subverted. Yet Andral has boldly called their philosophy of observation in question, and attempted its subversion on grounds too narrow and slender, I think, to sustain the weight of his crushing criticism. He confirms, indeed, the accuracy of the observations of his predecessors, as to the truth of what they record, but objects to the interpretation of the facts. "Was it observation or mere theory," he remarks, "that induced Huxham to lay it down, that delirium and disposition to coma disappear as soon as purging sets in? Was it by facts that Pringle was led to consider diarrhœa as ordinarily serving for a crisis in the remittent fevers, of which he has given us so valuable a description? He recommended that the purging in these diseases should not be checked too soon. Grant also considered diarrhœa to be the natural crisis of putrid fever. In our opinion, all these ideas rest on facts, which are real, but incorrectly interpreted."² He then opposes to the conclusion, that the diarrhœa was nature's own effort to accomplish the evacuation of the morbid matter, the pathological explanation, that diarrhœa "is the natural result of the intestinal lesion, the existence of which has been ascertained in those diseases by anatomical research". But this answer does not embrace all the phenomena, for in innumerable instances of fever, we trace after death no follicular lesion, or any other changes beyond those produced by simple congestion. It seems strange, too, that he should have contented himself with this anatomical explanation of such facts as the following, which he himself records. "Yet some of our cases," he admits, "afford instances where, at the same time that the fever ceased, and the other symptoms improved, the diarrhœa, on the contrary, was visibly increased. In other cases we have seen it appear, for the first time, just at the very moment when also, for the first time, there appeared a tendency in the disease to a favourable termination. Sometimes again it comes on during convalescence, without appearing in any manner to interfere with its progress. It is facts of this kind, no doubt, which made the ancients think, that in some continued fevers diarrhœa is *critical*, whilst in others perspiration constitutes the *crisis*." He then immediately subjoins:—"For our part we shall say, that the cases of *continued* fever, in which we saw the establishment of diarrhœa followed by any advantage, are so few, that we cannot conclude anything from them with respect to the critical nature of this phenomenon."

These two statements of the great pathologist are so conflicting, not to say contradictory, that they can only be reconciled by the supposition, that when he spoke of *continued* fever he lost sight of the

¹ SYDENHAM, Thomas, M.D. Works of, translated by Dr. R. G. Latham; vol. i, pp. 156, 158.

² ANDRAL'S Clinique Médicale, vol. ii, p. 755.

large class of remittent and intermittent types, and that with respect to continued fever itself, he had in view principally the anatomical results of the *typhoid* variety with its follicular exanthem. This specific result of the typhoid poison insulates the diarrhœa dependent on it from that which accompanies a simply congested or inflamed membrane in other fevers. In the one case the poison seems to spend itself in disorganising the follicles, and in the other it seems to pass out of the system by a diarrhœa, which is recognised by no such lesion. These views receive strong support from the late Dr. Abercrombie's strictures on the above pathological dogma of the French school. Admitting the anatomical facts, he objects to the indiscriminate use made of them. "Their observations on this subject," he observes, "are worthy of attention as far as they consist of facts; but we suspend our confidence when we are farther informed, that the dothinerterite is synonymous with the malignant fever of Sydenham, the hospital fever of Pringle, the typhus of Cullen, the putrid and petechial fever of other writers; in short, that every variety of fever, continued, intermittent, and remittent, arises from the inflammation of these follicles."¹ Moreover, Andral virtually concedes the crisis by perspiration by his profound silence after a bare allusion to the subject. The anatomical objection to the theory of crisis by diarrhœa will not apply here. But if crisis by perspiration be conceded, then, as the intestinal mucous membrane is virtually a continuation of the skin, we may, even on anatomical grounds, vindicate the theory of crisis by diarrhœa.

I shall make but a passing allusion to the *diarrhœa accompanying inflammation and ulceration of Peyer's glands*. The distinctive characters of this affection are so well defined, both in the tenderness of the umbilical region, especially half way between the navel and the groin on the right side, and in the rose-coloured rash on the skin, that diarrhœa under such circumstances cannot be mistaken for anything but a symptom of follicular inflammation of the ileum. The local affection, meanwhile, is the well known specific result of typhoid poisoning of the blood, and is pathognomonic of typhoid fever. Here, again, astringents are out of the question; nor will it suffice to leave nature to pursue her destructive course. Ulceration, on the contrary, may sometimes be averted by a treatment consisting of soothing injections, cautious local depletions, and counter-irritants.

In the *Asiatic cholera*, we are properly warned by Dr. Watson, "not to try, in cases of diarrhœa, to carry off the presumed offending matter, but to quiet the irritation, and stop the flux as soon as we can".² Here again the specific result of the cholera poison, as in the analogous case of typhoid fever, insulates the diarrhœa dependent on it from those fluxes which accompany a simply congested or inflamed membrane in other fevers. *Follicular eruption* (the *psorenterie* of M. Serres), as well as venous injection of the enteric mucous membrane, is, on Andral's authority, characteristic of the disease. The low diphtheritic condition of the alimentary canal is, indeed, altogether

¹ ABERCROMBIE, Dr. John. *Pathological and Practical Researches on Diseases of the Stomach, the Intestinal Canal, etc.*, p. 291.

² WATSON, Thomas, M.D. *Lectures on the Practice of Physic*, vol. ii, p. 469.

unlike the follicular inflammation of typhoid fever, and it destroys life in a different way. The uncontrollable diarrhœa, which accompanies it, differs essentially from ordinary diarrhœa, by largely exhausting the serum of the blood. The premonitory looseness of cholera, when severe, is most surely arrested by acetate of lead, as is the secondary diarrhœa by scruple doses of calomel with two or three grains of opium, going on with the remedy in diminished doses.

In the early stages of *remittent and intermittent fevers*, both in this country and still more in tropical regions, it is most dangerous to arrest diarrhœa by astringents. Amongst other risks may be mentioned that of inducing cerebral or pulmonary congestion, by a transference of the irritation from the gastro-enteric to the brain or bronchial membrane. I think I have seen this occur in practice. A safer method is, to obtain a gentle control over the diarrhœa by the alterative virtues of turpentine, combined with castor-oil in emulsion, giving both in very small doses. The object would be further promoted by rubefacients applied to the abdomen. The diarrhœa dependent on this condition of the mucous membrane is not seldom associated, especially in the East, with deep congestion of the liver or spleen, which would obviously be aggravated by a premature arrest of the diarrhœa. The treatment of what may be called the tropical variety, even its chronic form, is somewhat peculiar, as the following extract of a letter from my son, dated Constantinople, July 24, 1851, clearly shows. I may just premise, that, in the expedition to Nineveh, he had suffered several attacks of the fever of Mesopotamia, occasioned by the overflowing of the Tigris. He thus writes :—

“I have told you in what a wretched state of health I arrived from the interior; and you know what a struggle I had all the latter part of last year with a chronic diarrhœa. This latter complaint reached its acme about Christmas; and having gone through every kind of treatment but the right one, I at last took to bed, and commenced leeching repeatedly, and dieting rigorously, taking no other medicine whatever. After two or three days, I found myself constipated, and then had regular and natural evacuations up to February 19th, when the complaint recommenced, though not by any means severely. There were about two somewhat loose stools a day. This was quickly followed by a slight attack of ague; and on the tenth day the diarrhœa had entirely ceased. During March, I had *occasionally* a little looseness of my bowels, though not what I should have taken any notice of, had I not acquired a nervous dread of the thing. During April, I was almost always either rather constipated, or natural in my habit, though a few days are marked as shewing a little disposition to looseness, though not amounting to diarrhœa. On May 17th, some diarrhœa, though not severe, having reappeared, I applied leeches *ad anum* in small numbers for three days successively. The diarrhœa was *completely cured*, and my stools were perfectly healthy, and, with scarcely an exception, have been so ever since. So nervously afraid am I of this horrid complaint (having suffered so frightfully on my journey home), that I take note of, and treat the least, the smallest approach to it. After all, the ague is the *fons et origo mali*, and I have had it in various forms—dangerously and irregularly at Akra last autumn almost always mildly since. I am sorry to say, that I still fear a

return of it, as I had one accession, about a month or more ago,—a return of the Assyrian complaint, though mild. It often happens, that a fever caught in the country, sticks to a patient for nine months, one year, or even two, after which he recovers his health completely. I am now taking every precaution to avoid a repetition of this pest, the principal of which are, avoiding fatigue, taking occasionally doses of quinine, keeping in doors at night, and taking care that my diet should be generous, but easy of digestion, and simple."

In *scarlet fever* again, in which the blood is poisoned by a specific miasm, the gastro-enteric mucous membrane, though not the usual seat of morbid action, is yet liable to suffer from a condition, which gives rise to severe diarrhœa. I have seen children rapidly swept off by it, and with a violence exceeding that of the ordinary *cholera infantum*. If the fever manifestly verged on typhus, or the prostration threatened collapse, as the presumption would then be that we had to deal with a diphtheritic condition of the membrane, I should adopt the treatment proper for *cholera infantum*. If, on the contrary, the type of the fever was palpably inflammatory, and other diseases had a sthenic type, I should prefer leeching the anus, and giving alterative and soothing remedies. I have seen leeches applied to the epigastrium afford the most marked relief in scarlet fever, when the symptoms indicated congestion of the mucous membrane of the stomach.

Dr. Watson has remarked, that in *measles*, "when the rash is about to decline, a spontaneous diarrhœa often sets in, and appears to have a beneficial effect in abating the febrile symptoms. If this natural curative process should fail to occur, it may be imitated by the exhibition of gentle aperients." To arrest such a diarrhœa, would be an injurious interference with nature, and might produce, by metastasis, congestion either of the bronchial surfaces, or of the membranes of the brain. The play of these remote affinities is an interesting phenomenon in medicine; and with a view to illustrate the sympathy of the brain with the bronchial mucous membrane (we see it still oftener excited by abdominal affections), I will here cite a case, which fell under my own observation.

CASE. Master —, aged 4, became affected by whooping-cough in May. The attack was severe, but without producing acute symptoms of bronchitis. Emetics, purgatives, and prussic acid cautiously administered, made no decided impression on the complaint. After exposure to cold, in the latter end of June, his cough suddenly left him, and general lassitude, loss of appetite, and increased feverishness, supervened. The fever, with symptoms of cerebral irritation, increased from the 24th to the 30th, when actual phrenitis demanded more active treatment, than the less violent anti-inflammatory remedies hitherto used. About a teacupful of blood was taken from the arm on that day, and seconded by leeches and free purgation. The general bleeding was repeated on the 1st of July; and leeches to the temples and the sides of the neck were afterwards several times freely employed. Sleeplessness and that delirious anguish which mark cerebral inflammation in children, were prominent and distressing features during the severity of the attack: there was also for a day or two rigidity of the spinal muscles, and a peculiar drooping of the head to the left side, with a semi-rotatory motion. The symptoms of cerebral

irritation, though moderated by active treatment, did not wholly decline before a fortnight had elapsed from the time of the first general bleeding. The emaciation was equal to what we observe in the most protracted cases of fever. The first clear proof of the entire removal of cerebral irritation, was a return of the cough, with its distinctive hoop, which continued in a mild form during the whole period of convalescence. Natural and refreshing sleep, at first excessively profound, succeeded to the long-continued scenes of excitement. A change of air finally removed the cough, and asses' milk repaired the wastes of the system.

II. DIARRHŒA DEPENDENT ON SOME LOCAL OR CONSTITUTIONAL SOURCE OF IRRITATION. I shall dismiss these forms in a more summary way. I may instance, as introductory to the rest, the *diarrhœa of dentition*. This disease is consequent on constitutional irritation, set up by a local source of annoyance. As spontaneous salivation tends materially to lessen the local irritation, so does a moderately lax state of the bowels diminish the constitutional disturbance; nor ought the latter, when not excessive, to be interfered with. Still we should prohibit the over-feeding of the child, and improper kinds of food, as well as regulate the diet of the mother or wet-nurse. But suddenly to suppress the milder form of diarrhœa during dentition, would be dangerous. Interference, however, becomes a duty, and that by the most decisive treatment, in the graver forms of this malady. Here vomiting is superadded to the diarrhœa, which becomes excessive, the stools being sometimes yellow, but oftener green, like flocculi of confervæ floating in a transparent serous fluid. The condition of the gastro-intestinal mucous membrane, according to the best authorities, both French and English, is not one of inflammation, except very casually. There is some discrepancy between the statements of Cruveilhier and Guersant, the former speaking of the membrane as found in a state of softening, being reduced to a disorganised pulp, but without any appearance indicative of inflammation; while the latter speaks of it as only pale, colourless, and almost transparent, with the mucous follicles in their natural state. A remark of Dr. Carswell's goes far to reconcile the two statements. He suggests that the action of the gastric juice has something at least to do with producing the softening of the membrane. The dangers of this formidable malady are to be met by the prompt and bold use of stimulants, in conjunction with astringents and opiates cautiously administered.

"If the diarrhœa," says Dr. Copland, "either in infants or older children, be symptomatic of cerebral congestion, irritation, or inflammation, leeches behind the ears, calomel, with James's powder, the semicupium, cold affusions on, and cold applications to, the head, with cooling diaphoretics, diuretics, and external derivatives, are the chief remedies."¹

In the *serous diarrhœa of the puerperal state*, especially in an early stage, when the skin is hot, the thirst great, and the pulse rapid and vibratory, and more especially when pain is felt in any part of the abdomen upon well-directed pressure, the danger of transferring the

¹ Dictionary of Practical Medicine, Part II, p. 532.

congestion of the gastro-enteric mucous membrane to other parts is peculiarly great on employing astringents or opiates, owing to the extreme susceptibility of the nervous system, and the exalted sympathies of various organs. Here general or local bleeding, with refrigerant salines, diaphoretics, and, eventually, the chalk mixture, with hydrocyanic acid, are the appropriate remedies. I have seen a severe diarrhœa of this kind speedily arrested by a dozen leeches applied to the abdomen, and their bites allowed to bleed freely into a warm emollient poultice.

In the *diarrhœa symptomatic of hepatic congestion*, we are warned by Dr. Copland against the too early exhibition of astringents or opiates, and even against the indiscriminate use of calomel.¹ The alvine discharges being an evident, but inadequate, effort of nature to relieve the system of some latent source of irritation, our business is to master all the symptoms before we prescribe for one of them, and that, in itself, the least important; and we shall soon find palpable indications of the existence of pain or heat about the region of the liver, the scapulæ, etc., or of fulness and tenderness in the epigastrium. To arrest diarrhœa under such an assemblage of symptoms, would be to convert congestion into positive inflammation of the liver, or supplant diarrhœa by dysentery. The treatment, on the contrary, should commence with venesection, or, what is perhaps preferable, free local bleeding, to be followed up with alterative doses of mercury castor-oil, and neutral salts.

Once more: diarrhœa is sometimes *vicarious of suppressed evacuations*, as interrupted sweat and checked menstruation. The mode of relief, in such cases, is obviously to restore the suppressed evacuation. Gout, also, is known to expend itself by the outlet of the bowels. "One gentleman", we are told, "had his first attack of gout on giving a check to a loose state of the bowels, which he considered troublesome."² "The gouty diathesis", says Dr. Todd, "disposes to peculiar affections of internal organs, so different, as regards their tractableness to ordinary remedies, from the common diseases of those parts, that their connexion with some particular state of the general habit is clearly indicated. Two patients of mine, in no way connected with or known to each other, manifest all the signs of this temperament; and, I find, always consequent upon a kind of exacerbation, to which they are almost periodically liable, a considerable discharge from the bowels of mucus, coloured with bile; this will continue for three or four days, and *never fails to bring great relief*."³

To conclude:—in addition to the individual lessons of practical medicine taught us by the preceding remarks, the great truth is also inculcated, that the philosophy of observation ought not to be set aside by the researches of the scalpel or microscopical investigations; otherwise we shall but "pore and pore, and dwindle as we pore." A just anxiety to profit by the laborious thinkings of such observers as Sydenham, Pringle, Heberden, Mead, and others, need not exclude an equal willingness to attend to all that is valuable in the pathological

¹ Dictionary of Practical Medicine, Part II, p. 528.

² Cyclopædia of Practical Medicine, vol. i, p. 557.

³ TODD, Dr. R. B. Practical Remarks on Gout, Rheumatism, etc., p. 32.

researches of Andral, the numerical method of Louis, or the microscopical analysis of our modern professors. Pathological inquiries, such as those conducted by Mr. Henry Lee, may also be called in to our aid in demurring to the views of Andral: for they strongly support by analogy the conclusion of the old observers, as to Nature's own efforts to accomplish the evacuation of the morbid matter of fevers by diarrhœa. Heberden has clearly stated what their conclusion was, in the following words. "A diarrhœa is often brought on by that power, which is exerted in every part of the body, of freeing itself from anything painful and oppressive. Not only the mischief from the noxious qualities and improper quantities of what has been taken, and immediately offends the stomach, are carried off by means of a diarrhœa, but likewise many disorders of remote parts, or of the whole body, (such as morbid impressions from the causes of epidemical complaints and of fevers), are, by the self-correcting powers of an animal body, determined to the bowels, and thence discharged by a diarrhœa. The observation of this has given occasion to that useful caution of not being too hasty in stopping a recent spontaneous purging, it being frequently useful to cooperate with nature in promoting this evacuation."¹ It is almost superfluous to add any further proof of the soundness of these views. I may, however, just refer, by way of illustration, to the value of active purging, whether spontaneous or induced by medicine, in not a few instances of the coma attending jaundice, brought on by the suppression of the secreting function of the liver, owing to a greater or less destruction of its proper cells, with consequent cerebral poisoning. In other instances of the same kind, relief is afforded by the colouring matters of the bile passing off freely by the kidneys and skin.² It is impossible, indeed, to overrate the importance of the general doctrine, as to the danger of rashly interfering with diarrhœa, especially in febrile complaints. Nor ought we to be awanting in the rational proofs of a doctrine of so much practical value, because occasions ever and anon occur in practice calculated to shake our confidence in its dictates. Thus, while watching the progress of fever in subjects of refined organisation and high nervous sensibility, deceptive appearances of weakness, under the depressing influence of diarrhœa, may throw us off our guard, and lead us to interpose prematurely in restraining that which may be securing permanent benefit, although concealed under the mask of excessive exhaustion. The same delusive appearances in various cerebral affections may similarly mislead us. We cannot, therefore, act more wisely than in studying the advice of the old sagacious observers, and in calling to mind the mischiefs we ourselves have witnessed by turning a deaf ear to their warning voices.

Hull, November 1851.

¹ HEBERDEN, Dr. Commentaries on the History and Cure of Diseases, p. 144.

² BUDD, Dr. G. O. Diseases of the Liver, pp. 188, 222, 226.

CASE OF INFLAMMATION AND ULCERATION OF THE THROAT AND TONGUE,

SUCCESSFULLY TREATED BY NITRATE OF COPPER; AND IN
WHICH THERE EXISTED ABNORMAL AFFECTION
OF THE HEART.

By WILLIAM MOORE, A.B., M.B., of Trin. Coll., Dub.; Licentiate of the
Royal College of Surgeons in Ireland; and Physician to the
Ballymoney Dispensary.

CASE. M. A., aged 20, though apparently not more than fifteen years of age, of a fair complexion and delicate figure, consulted me on the 16th December 1850, about her throat, which had been affected since the spring of 1845. About this period, she suffered from a severe attack of sore throat, which was partially got under; but a trace of it still continued through the following summer, and till the succeeding spring, when she had a repetition of an affection somewhat similar in character, but more formidable in its results. Ulceration engaged both the tonsils and palate, and led to suppuration, the matter being discharged internally. Under these circumstances, the parents of the patient first sought medical aid. In spite of all treatment, the ulceration gradually extended, the hard palate becoming engaged. The patient was sent to the sea-side, where she remained about a month. Repeated periodic attacks of cynanche tonsillaris ensued, until the year 1848, when she abandoned all medical advice. Her voice at this date was much affected, and several spiculæ of bone came away through the anterior nares. About the spring of 1850, the patient first began to cough. The expectoration was of a frothy and slightly purulent character, particularly on awaking in the morning. At the same time, she suffered from a most profuse salivation, which became more copious towards evening, and was accompanied with a severe pain shooting to the right ear. A month previous to her consulting me, she felt occasional palpitation, which, she stated, gave her little concern. The patient had never menstruated, nor was her mother aware of any constitutional effort to bring about that change having taken place at any period. Both her parents are remarkably healthy; her father having served in the capacity of parish-clerk for many years, and never having had any delicacy of the throat or chest. This disease had no connexion whatever with any syphilitic taint. Such is the previous history of the case, which I collected in the most careful manner, when I was first consulted.

The phenomena manifest on a careful examination were as follows. The uvula and soft palate had been wholly removed. The opening of the pharynx was easily seen, the mucous membrane presenting an abraded and ulcerated appearance. The hard palate was attacked by the ulcerative process, as well as the septum narium, and a thick tenacious slough was closely adherent to each. The epiglottis was partially destroyed; and the larynx was deeply implicated, as I inferred from the complete loss of voice. The aspect of this extensive ulceration was uneven and granular. The tongue was irregularly fissured, hard, and warty to the touch, and triangular portions of it were insulated by

clefts, some of which were clean and of a bright red colour, and others covered with a glutinous dirty-white substance. A trace of each tonsil still remained; and, from the pain affecting the right ear, it is natural to suppose that the ulcerative process had extended along the Eustachian tube. The patient suffered from slight dysphagia; and, after the slightest exertion, from a severe hoarse cough, accompanied with frothy expectoration.

On proceeding to examine the chest, an abnormal condition of the heart, of more than ordinary interest, presented itself: viz., a peculiar "who", audible at the distance of four yards from the patient. There was no marked dulness on percussion over any part of the thorax; and, on applying the stethoscope, an extensive mucous râle could, although with difficulty, be detected, being, in a great measure, obscured by this abnormal "who", which prevailed over the entire chest, anteriorly and posteriorly, but especially at the junction of the third rib with the sternum, and along the course of the aorta, both sounds of the heart having completely merged into the one "who". The patient had lateral curvature of the dorsal vertebræ, the convexity being towards the left side. The pulse was 100, weak, and easily compressible. Struck with the peculiarity of these symptoms, I lost no time in seeking the assistance of Dr. Latham, a gentleman eminently qualified to form a correct diagnosis, and at that time physician to the Ballymoney Dispensary. After a most careful examination, we came to the conclusion, that this unnatural sound was caused by scrofulous excrescences on the valves of the heart, more particularly on those of the aorta, and the following treatment was forthwith adopted.

℞ Pil. ferri iodidi x; one to be taken twice daily. ℞ Pil. aloes cum myrrhâ x; two to be taken every third night. The tongue and throat were ordered to be touched with caustic iodide, the formula of which I subjoin. ℞ Iodinii, et iodidi potassii, singulorum ℥iv; aquæ destillatæ, ℥j. M. Fiat solutio.

December 23. The patient presented herself this morning; and, to our no small amazement, the "whoing sound" had wholly disappeared, both sounds of the heart being distinctly audible and normal. The pulse was 98, regular, but weak. There was no marked improvement in the throat or tongue; the latter still appeared fissured, hard, and knobby. A copious leucorrhœa had supervened.

December 30. The throat was cleaner, and presented a more healthy character; the ulcerative process was somewhat checked. The tongue was still covered with small white patchy ulcerations. The patient could swallow with much less difficulty. The heart's action was natural. The leucorrhœa still continued. She was ordered to continue the aforementioned treatment, and to use the *gargarisma aluminis*, in addition to the local application of the caustic iodide.

Matters continued gradually improving under this treatment, till early in March; at which date, being obliged to leave this locality, I lost sight of the case till the end of the following May. On the 2nd of last June, the patient again presented herself at the dispensary; and, on a careful examination of the throat and tongue, I found manifest symptoms of retrogression. She stated that latterly she had been very remiss in her attendance at the dispensary, and consequently felt much worse. The sloughy discharge again adhered to the hard

palate; the tongue was ulcerated in parts; and the patient complained of general debility. The heart's action was feeble, both sounds were distinct; and the cough was harsh and very troublesome. Sensible of the good effects of the previous treatment, whilst properly attended to, I determined again to have recourse to somewhat similar remedies, and accordingly prescribed *mistura ferri composita* with tincture of iodine, and a gargle of dilute hydrochloric acid and tincture of catechu to be used at the same time. As so many caustic applications had been applied, and, to a certain extent ineffectually, I touched the throat and tongue with *nitrate of copper*; a caustic, as yet, comparatively little used, but to the incalculable benefit derived from the application of which, not only in this but also in many similar cases, I can bear the fullest testimony. After this treatment had been persevered in for about a fortnight, the throat had become quite clean, the sloughy discharge had almost disappeared, the tongue was also clean and free from ulceration, and the general health was much improved. Being now satisfied of the good effects arising from the first application of the nitrate of copper, I determined to repeat it, continuing the gargle as before; and I prescribed at the same time a dessert-spoonful of cod-liver oil to be taken three times a-day.

Early in July, as appears from my note-book, the general health was much improved, the throat perfectly clean and free from any trace of ulceration; the tongue was also clean, its colour natural, the fissures obliterated, and although somewhat atrophied and shrivelled, in every other respect it was perfectly healthy. The patient was directed to continue the *oleum jecoris aselli*, and the *gargarisma acidi hydrochlorici diluti*. She was ordered to go to the sea side; and in the month of September, after her return, I find the following report: "Patient much improved in every respect, the throat and tongue healthy."

The catamenia have never been regularly established, but I confidently expect that a perseverance in suitable tonic treatment may bring about such a desirable end. As far as the voice is concerned, I believe it to be irremediably lost, in consequence of the ulcerative process having completely destroyed the vocal apparatus in an early stage of the disease.

REMARKS. I have been induced to bring the above case under the notice of the profession, as it tends to exemplify, in a striking manner, the fearful effects of neglected ulceration of the throat and fauces, the severity and rapidity of the course of which is thus admirably described by Professor Porter, in his work on laryngeal disease: "Occasionally the ulceration is deep and foul, and spreads with an almost phagedenic destructiveness; the sporadic sores commencing usually above, either in the soft palate or the back of the pharynx, and spreading downwards." And again: "In some cases it is so extensive, that the whole configuration of the organ is spoiled and lost, the epiglottis being partially or entirely removed, and the chordæ vocales and ventricles carried away. The surface of this extensive ulceration is irregular, warty, and gives the appearance of uneven granulations."

The results also demonstrate the value of nitrate of copper as a caustic; a remedy which I have also found effectual in similar cases, where, in spite of the ordinary topical treatment, the disease had re-

mained unchecked. Its caustic properties may be objected to as being too powerful, and its application may be alleged to be fraught with danger; but in every case in which I have used it, no bad effects have ensued, nor is there reason to apprehend any if the following precautions be attended to; viz., to dry the ulcer or part to be cauterised before applying the nitrate, and afterwards to smear it with oil. For further information relative to the successful application of this escharotic, the reader may consult an excellent treatise on *Diseases of the Tongue*, by Dr. Fleming, in No. xix of the *Dublin Quarterly Journal of Medical Science*, p. 87.

Lastly, the case is of some value, as illustrating the occasional difficulty of forming a correct diagnosis between organic and functional disease of the heart. The "bruit", in this instance, as the event proved, depended on a chlorotic condition of the blood, which had been induced by the long continued ulceration of the throat, and that, too, existing in an apparently scrofulous habit of body. A conception of this peculiar sound may be better conveyed by the word "who", than by any other I am aware of; and though it was somewhat analogous to the "coo" described by Dr. Hope, yet it was essentially different, and could not be confounded with it. It was the most unequivocal and peculiar case of functional simulating organic disease of the heart that I ever had an opportunity of witnessing.

Ballymoney, Ireland, November 10, 1851.

CASE OF FALSE DIFFUSED ANEURISM OF THE ABDOMINAL AORTA, CAUSED BY CARIES OF THE VERTEBRÆ.

By EDWARD DEWES, M.D., Physician to the Coventry and Warwickshire Hospital.

CASE. Edward Russell, a dyer by trade, 35 years of age, came under my care as an out-door patient of the Coventry Hospital on the 21st July 1851.

He was formerly a strong muscular man; but, of late years, having suffered much mental disquietude, he had become very intemperate. He had always been accustomed to hard labour; and in the prosecution of his trade had had occasion to be frequently lifting heavy weights, and had been much exposed to sudden and great alternations of temperature, at times standing up to his knees in cold water, at others working with his back exposed to a large fire, not more than a yard distant. A few months ago, he was knocked down by some drunken men, but was not materially injured; nor did he recollect ever having received any hurt in the back. For the last twelve months, he had been losing flesh; and during the latter five or six, had suffered much from pain in the loins, of a sharp, darting character, coming on at intervals, especially after unusual exertion, and causing him to suspend his work for twenty or thirty minutes at a time. This pain had, for the last week or two, increased so much, as to confine him to bed.

It was now constant, chiefly affecting the left side, and usually of a dull aching character; but at times it becomes extremely severe, darting downwards to the left groin and scrotum, causing retraction of the testicle, and altogether bearing great resemblance to an attack of nephritic colic: no stone was, however, voided; and the urine was uniformly natural, and passed in due quantity. It was at times cloudy, but never had any sediment. The pain in the lumbar and iliac regions was increased by pressure; but there was no appreciable swelling, nor any irregularity of the spinous processes. He was feverish, had a quick irritable pulse, and a teasing cough, attended with slight purulent expectoration, which was, on two or three occasions, streaked with blood. There was great want of rest, so that he scarcely ever slept an hour together.

The treatment was, in the first instance, directed to the alleviation of the cough and fever, and the procuring of sleep by means of full doses of Dover's powder, given at bed-time.

August 1. The lumbar pain had been gradually increasing in severity, and that in the lower abdomen and groins had become constant, and was often exacerbated into violent paroxysms, shooting to the scrotum and down the left thigh. During the whole of August, the power of moving the lower extremities gradually declined, and on the 25th, he was suddenly seized with excruciating pains in the back, groins, and left thigh, attended with strong clonic spasms of the left hamstring muscles, causing the heel to be drawn up close to the nates, and there immoveably fixed. This state continued upwards of an hour, and from that time, all voluntary movements of this limb were lost. A similar spasmodic attack occurred daily till his death; the control over the sphincters, however, remained perfect to the last.

Aug. 26. My friend Dr. Powell kindly visited this patient with me. There was now detected a strong pulsation in the situation of the left kidney; it was single, and tolerably superficial, there evidently being no organ interposed between the finger and the pulsating tumour. The stethoscope discovered a strong, abrupt bellows-sound, synchronous with the systole of the heart.

September 2. On the evening of this day, he experienced another paroxysm similar to that of the 25th August, and more severe than any previous one. It first developed itself in the left lower extremity, and thence extended to the right, giving rise, in *both limbs*, to a state of clonic spasm, of the same nature as that which had on all previous occasions affected the left leg only. He now, for the first time, had some pain in the chest, accompanied with a distressing sense of constriction, and extreme dyspnoea. During the continuance of this state, he became very faint; and, although the pain and spasm remitted, and he got some refreshing sleep during the night, his exhaustion hourly became more apparent, his breathing more oppressed, and he expired at half past nine on the evening of the 3rd September, his intellect remaining clear to the last.

EXAMINATION OF THE BODY, eighteen hours after death, in the presence of Dr. Powell and myself.

There was great general emaciation, and all the organs were remarkably bloodless. On breaking through the sternum, it was observed to be highly vascular, and very soft. The heart was small and empty; the liver

pale and mottled; and the gall bladder distended with bile of a black colour, but there were no concretions or obstructions in the ducts. On removing the liver, stomach, and intestines, we found that the abdominal cavity, on each side the spinal column, was occupied by a large black swelling, which, on examination, was found to consist of a quantity of extravasated blood, lying in the cellular membrane behind the peritoneum, and following the course of the psoas muscles, as far as Poupart's ligament. The muscles themselves were greatly attenuated, and were lying in front of the swelling. The kidneys were pushed out of their usual position, but their texture was perfectly normal. The part of the aorta lying in front of the ninth and tenth dorsal vertebræ, was observed to be slightly enlarged, and its coats were thickened, but it did not contain any coagulated laminæ, nor was there any distinct sac. On raising the vessel, it was found to have contracted strong adhesions to the bodies of the ninth and tenth vertebræ. These bones were nearly destroyed by caries; and the bodies of the eighth and eleventh were similarly affected, though to a less extent. The interarticular cartilages, however, remained intact. Exfoliation to a considerable extent had taken place; and several portions of bone were found amongst the coagula. On laying open the aorta from this point, we observed a circular opening of the size of a shilling, the edges of which were firmly connected to the bones and interarticular cartilages.

REMARKS. The diagnosis of the case now related, in its earlier stages, presented considerable difficulty; for, although the long continuance and the steady increase of the lumbar pain, together with the gradual loss of power over the lower extremities, gave unequivocal indications of vertebral mischief, yet the closest examination failed to detect any appearance of lumbar abscess; and again, the extreme severity of the paroxysmal attacks tended to obscure the true nature of the case, and to lead to the supposition of the existence of some renal complication.

Previous to the 26th August, the idea of aneurism had not been entertained. The pulsation first appeared on this day, and, as far as could be ascertained, was confined to the left side of the spine. It is probable, that during the presence of the spasmodic attack, which occurred on the 25th, a rupture of the connecting medium between the aorta and the vertebræ took place, giving exit to a quantity of blood which gradually forced itself into the cellular tissue behind the left kidney, and gave rise to the pulsation in this situation. A more extended rent probably occurred on the day previous to his death (September 2nd), giving origin to the effusion on the right side, since it was on this occasion that the right lower extremity first became affected with spasm, and the faintness and other mortal symptoms first showed themselves.

It appears desirable that this case should be placed on record, as being an unequivocal instance of aortal aneurism caused by caries of the vertebræ; for, although it might at first be supposed that the aneurism was the primary disease, and had produced caries by pressure upon the bones, yet a nearer examination will show the fallacy of this opinion. In the first place, the calibre of the artery, even

opposite the ninth and tenth vertebræ, was so little increased, that it could scarcely have exerted any undue pressure upon these bones; and that part of the vessel in contact with the eighth and eleventh, whose bodies were also carious, was perfectly sound. Moreover, the inflamed and softened state of the sternum gave further indication of the proneness of the cancellated bones generally to become diseased. Mr. Hodgson, in his work on *Diseases of Arteries and Veins*, informs us, that the carious and corroded state of the bones produced by aneurism is hardly ever attended with exfoliation; whereas, in the case now related, several pieces of exfoliated bone were lying loose among the coagula.

Coventry, November 1851.

HISTORY OF AN EPIDEMIC OF SMALL-POX IN THE MAURITIUS:

WITH REMARKS ON THE PROTECTIVE POWER OF VACCINATION.

By W. H. GARDNER, Esq., M.R.C.S.Eng.

(Read before the Epidemiological Society, November 3, 1851.)

HAVING received from the secretaries of the Epidemiological Society a series of questions on the subjects of small-pox and vaccination, I have thought that the best way of answering them would be to give that account which my experience, during a most arduous practice, enables me to do with the most perfect confidence, and yet, I hope, without presumption.

During the month of June 1840, Her Majesty's sloop the *Lily* arrived outside the harbour of Port Louis, Mauritius, having on board between two and three hundred negroes, captured three weeks previously from a slave ship on the Mozambique, or eastern coast of Africa. Small-pox prevailed to some extent on board. Three hundred and forty of these poor creatures were taken from the slaver by the *Lily*; but, before this vessel arrived at the Mauritius, ninety died, many from small-pox, others from rapidly falling into a state of cachexia or atrophy. This great fatality will be easily accounted for, when we reflect upon the crowded state of Her Majesty's sloop, the short allowance of food and water consequent upon that number, the high state of the atmospheric temperature, and the impurities incidental to such a dense mass of people confined in so small a space. The *Lily* was not allowed any communication with the shore, not even to enter the harbour. Great alarm was created amongst the inhabitants, as the disease had not visited the island for upwards of thirty years; a lengthened exemption, which, perhaps, few, if any, of the most favoured climates can boast of, and a striking illustration of the healthy character of the island. The vessel could not be detained, her sailing orders being positive; directions were accordingly given for the instant disembarcation of the unfortunate Africans on board. To meet the necessity of the case, government decided that two hulks should be procured to receive the sufferers; and orders were at

the same time given that these should be placed under the most rigorous quarantine regulations. These instructions were given on the 26th June, on which day I was appointed to the sole medical charge of the vessels in question, and received on board 255 Negroes, viz., men, 63; women, 8; boys, 123; girls, 61. Of these, 37 were labouring under small-pox; and I found that at least 80 others had had the disease. I ascertained this either from their own recollection, or from marks visible upon their persons.

Of those labouring under the disease, the majority had it in its most virulent form. I have seen small-pox in this country, but have never witnessed anything to equal that which I met with in quarantine off Port Louis. A hot climate always renders the disease worse; but these poor creatures had everything against them. The Mozambiques are a much more delicate race than their neighbours the natives of Madagascar, or those of the other coasts of Africa: they live almost entirely on a vegetable diet, and are soon prostrated by sickness.

In the very severe cases, all the worst symptoms of typhus supervened; the eruption assumed a dark livid or black hue, and became highly confluent; the swelling of the face was intense; the pustules contained a brownish ichor, giving out a most offensive odour; sloughing of the mouth and gums, coma, convulsions, etc., etc., were the usual symptoms observable in the very severe cases. In most of these medical aid was, of course, of little avail; good nourishing diet, free ventilation, and cleanliness were the primary desiderata.

Of about forty-one cases, eight died. It must be borne in mind that these patients were bad subjects for the disease. Not only were they naturally delicate, but, from the hardships they endured during the time they were on board the slaver, and the privations on board the sloop, the majority were in a deplorable state of emaciation when they arrived in quarantine. Of those who escaped small-pox, many died from this cachectic condition of body.

Fortunately, all the cases were not of the confluent type; indeed, many were so mild and shortened in their course, as to resemble the modified form with which we meet after vaccination, or a previous attack of the disease. Vaccination was not known in their country, and consequently could not have caused this modification; and I am confining myself strictly to facts when I add, that, out of a dozen modified cases which came under my notice, not more than three or four had had a previous attack, so far as my investigation enabled me to ascertain. The majority of these mild cases occurred in children, and it struck me as remarkable, that the disease should have been so slight with them. Some had not a hundred pustules, and these did not regularly go through their different stages, maturation occurring early, and the whole disappearing sooner than in ordinary cases. What caused this modification I am unable to say.

After these people joined the quarantine hulks, the disease almost ceased to spread. Good ventilation, proper food, strict attention to cleanliness, studying their comforts, and inducing content and cheerfulness amongst them, did much towards this.

The disease was almost entirely confined to the children. On referring to the numbers received on board, it will be seen why this

should have been the case. I have no doubt that most of the men and women had had the disease, as it was constantly prevailing in their country.

A circumstance occurred, showing most strikingly how powerful an agent *fear* is in predisposing to small-pox. When I took charge of the quarantine vessels, twelve of the police brigade of the island were sent on board to act under my directions, in seeing to the comforts and wants of the negroes. Although increase of pay was offered to those who volunteered to perform the duties of the office, only eight out of a large number could be tempted; the other four were consequently pressed or sent against their inclination. Not one of the twelve had had small-pox; but all had been vaccinated, and showed good marks of this operation having been well performed. Of the twelve, four were Europeans, and eight half-casts. On the morning of the eleventh day after joining the hulks and being exposed to the infection, two of the latter had the premonitory symptoms of small-pox; and on the evening of the same day two others, also half-casts, sickened. On the thirteenth day, the eruption appeared upon the four. They all had the disease in its most modified form, and were soon well. I have no doubt that the infection was imbibed as soon as they joined the negroes and became exposed to it. Upon being questioned, they all admitted that they had joined the quarantine against their inclination, that they dreaded the disease, and felt certain they would take it; and I ascertained from the eight who did not have it, that they had no fear whatever; they told me that they thought nothing of small-pox, but a great deal of the increase of pay, and how well off they would consequently be when liberated from quarantine.

I have frequently noticed, both in this country as well as within the tropics, that the premonitory fever generally shows itself about the eleventh, and the eruption on the thirteenth day.

After being on board the hulks thirteen weeks, and the last case having been well forty days, we were allowed pratique.

Before this period, the disease had reached the island, and was committing great ravages. A hospital was in consequence opened expressly for small-pox; the government placed Dr. Rogers, the civil medical officer, and myself in charge of it, he having the women under his care, and I the men.

Up to January 2nd, 1841,—702 cases, 491 males, and 211 females, had been taken in: of these 438 were discharged cured, 150 died, and 114 remained under treatment. Of the above 702 cases, 281 showed no marks of vaccination; of the 150 deaths, 120 took place in persons bearing no marks of vaccination, 17 in persons where the marks of vaccination were unsatisfactory or imperfect, and 13 of the remainder had satisfactory marks. Many were known drunkards.

Total admissions from September 9, 1840,	} Males	491
to January 2, 1841	} Females	211
Of which were,		702
True discrete small-pox	8	
— confluent ditto	260	
		268

Brought forward (true and confluent discrete)	268
Modified discrete	271
———— confluent	126
	———— 397
Varicella	12
Cases still doubtful.....	25
Of which were	———— 702
Discharged cured	438
Died	150
	———— 588
Remaining under treatment.....	114
Of which were	———— 702
Serious cases	20
Convalescents	40

The inhabitants of the island are a compound of many countries. Our patients were principally the Creole, Mozambique, Malagasi (natives of Madagascar), Indians, etc. Their occupation was that of labourers, draymen, bargemen, domestic servants, etc., etc. Nearly all were frightfully addicted to the practice of drinking a strong spirit called arrack,—a liquor too well known from its disastrous consequences in our army and navy to require further notice; consequently they were the very worst subjects for a disease like small-pox. Of those who had never been vaccinated, many had it most fearfully, and a large proportion died—much greater than in those who were attacked on board the hulks; and of those who had been vaccinated, very many died also—not so much from the disease itself, as from the after-consequences. When vital organs, as the brain, liver, stomach, etc., were previously in a morbid state, much was not required to ensure a fatal termination. Madness, severe biliary derangement, distressing retching, jaundice, dropsy, and dysentery, were among the more common causes of death.

The result of my experience in small-pox at the Mauritius convinced me, that it there assumed a more virulent character, and consequently was much more fatal, than in this country.

On board the hulks, this arose from the negroes being naturally a very delicate race of people; from the mode of living, viz., abstaining entirely from animal food, so that they were unable to bear up against severe disease; from the intense heat of the climate; and from want of the protective power of vaccination.

On shore, the very same results were unfortunately witnessed, although many individuals had been vaccinated. But these results must be attributed to the effects of an excessive indulgence in spirituous liquors, which, operating upon naturally weak constitutions, nullified, to a certain extent, the beneficial influence of vaccination.

I am inclined to think that, even in a completely healthy condition of the body, the protective power of vaccination is not so great in a country averaging so high a temperature as obtains in intertropical regions, as it is in colder latitudes.

As some difference of opinion has appeared lately to exist concerning the protective power of vaccination *after a certain period of life*, as well as with regard to the powers of *revaccination*, we ought unhesitatingly to give the results of our experience in this matter; the

more so, as one, who has hitherto been looked up to as a high authority, has propounded a theory which appears most unaccountable.

From the length of time which had elapsed since small-pox had visited the Mauritius, vaccination had of course been much neglected; and, at the first alarm, vaccine lymph could not be procured; indeed, there was none in the island.

Soon after I had been placed in charge of the quarantine hulks, Dr. St. John, the chief government medical officer, received from England the journals containing the accounts of the experiments of Mr. Ceely, and he desired me to repeat them, sending on board seven cows of different ages, and in various states, for this purpose. These cows were exposed to the fomites of the disease; and I inoculated them in every possible manner, and in various parts of the body, viz., in the teat, udder, mucous membrane of the vagina, rectum, and tonsils, with matter in every stage; also, by inserting scabs beneath the cuticle, but I did not succeed in producing any effect. The utmost result was slight inflammation about the punctures. Although this proves nothing against Mr. Ceely's experiments, it presents one fact, viz., failure of the most favouring circumstances, in a tropical climate, to infect the animal with small-pox.

Vaccine matter was sent for, to Calcutta, Ceylon, the Cape, etc.; but three months elapsed before any arrived. By this time, the disease was spreading over the island, and I was then in charge of the hospital on shore. Vaccination was now largely practised all over the island. Many patients presented themselves at the hospital, who had been vaccinated during the period of incubation of small-pox; and I was in the habit of performing it even immediately upon the attack of fever.

With regard to the results: in the former cases, I often observed that the disease was rendered milder, and was indeed distinctly modified; but, as might be anticipated, the more advanced the vaccine vesicles were upon the accession of fever, the more marked was the effect upon the small-pox; and the less forward the vesicle, the more it was itself disturbed, and deviated from a normal course. I never witnessed a perfect vesicle to pass through all its natural course, when the small-pox infection had been received; although the contrary has, I know, been stated to have been met with.

I am inclined to believe, that a favourable influence is exerted, to a certain extent, by practising vaccination during the preliminary fever of small-pox, although it may be but small. The power of our remedial means in this disease, is too inconsiderable to warrant us in refusing the least accession to it. I should, therefore, practise and recommend the insertion of vaccine matter freely, when a patient comes under treatment, the instant the nature of the fever is discovered; and I would do so, whether the patient had been vaccinated before or not.

Dr. Gregory has lately stated, that vaccination does not protect after puberty. He says, that "up to puberty, vaccination protects, but after that, a change takes place, and persons are liable to small-pox once and again."

This is certainly a bold assertion, and likely, I think, to meet with but few, if any, supporters. No doubt the vaccine does, after a time, with many, lose somewhat its power of protection; but why the period

of puberty should be fixed upon for its effect being lost, I cannot understand. Few persons have been more exposed than myself to the disease, yet I never took it, although I had long passed the period at which Dr. Gregory would have considered me safe. The only protection I had, was vaccination performed once during infancy. I was so placed on board the hulks, that it might be said I was night and day breathing air rendered most impure from the loathsome cases under my charge, yet, thanks to vaccination, I escaped. The twelve police, who have been before alluded to, had only vaccination to protect them, and they, too, had long passed the period of puberty. Eight did not take the disease; it is true that four did, but they had it were mildly; and I believe that if fear had not predisposed them to it, they would have escaped altogether.

Dr. Gregory is no advocate for *revaccination*; indeed, he goes so far as to say, that “revaccination is a proceeding of little moment; it satisfies the mind of the public, rather than effects real good.”

Here again he will, I think, meet with but few supporters. How often do we find a decided effect produced by revaccination! It is remarkable, that in all the children from India on whom I have had to perform this operation, success has attended it, whether the marks of the vaccination performed in India were distinct or not. In many cases, I have produced a vesicle as perfect, to all appearance, as if it was the first time of its being done; and yet I have been satisfied, both by the distinct cicatrices, and the statement of the friends of the child, that vaccination had been successfully done in India.

Very lately, during my attendance upon a family who had just arrived from Calcutta, I suggested to the parent the propriety of her children being revaccinated. She did not think it necessary, as they had all been vaccinated in India, and with perfect success. But, upon my telling her how often I found children from tropical climates take the disease again, she consented. She had four children, the youngest three years old, and the eldest eleven. The youngest and second had as fine arms as if the operation had never before been performed, and the other two took well for revaccination. I may mention, that all showed good marks of its having been successfully done when in India; in the first two, the vesicles went through their stages with perfect regularity, as much so as if they had never been operated on before. I am unable to say if the second vaccination has really rendered them less liable to take small-pox; but I am strongly inclined to believe that it has. I have faith in revaccination, and shall continue to practise it, more especially with children from hot climates; because, in my practice at the Mauritius, and in other tropical countries, I have often witnessed the beneficial effects derived from this practice.

Dr. Gregory says, he “could find no reports of modified small-pox under puberty; that form occurred in grown-up persons only.” Does he mean, after vaccination? If so, I can assure him that, within the last twelve months, I have seen several instances in this neighbourhood (Bayswater). Or does he mean where there has been *no* vaccination? If so, I can also tell him, that I have seen many such cases, to some of which I have already alluded in this paper.

As this Society is desirous of obtaining information relative to the

first appearance or outbreak of small-pox, it may be interesting to know how it first appeared on shore at the Mauritius, where it had not been for many years. It is an ascertained fact, that it was not by the infectious matter being conveyed by atmospheric agency, as some suppose it often to be; neither was it from any communication taking place between the hulks and the shore. The quarantine was most rigid; had any person on board attempted to leave, or any one from the shore come alongside, the sentries, placed in a guard-boat near us, would have shot them instantly, in compliance with their instructions. Nothing was allowed to be sent by any one on board to the shore, except letters; and these had to pass through my hands first, for the purpose of being thoroughly fumigated.

Some ten or twelve days after my taking charge of the quarantine hulk, there was sent me from the chief medical officer, a man in a boat by himself, towed by another boat. He was left alongside the vessel, with a note to me, saying that there was some doubt as to the nature of his case. A suspicious kind of pock was making its appearance. As he had been vaccinated, it was thought better that he should remain with me; for, supposing the disease to be small-pox, his being sent from the island might prevent the disease from spreading; and if it were not, his vaccination might save him from taking it from the negroes. A medical board had met for the purpose of examining the man; half thought it small-pox, and the rest chicken-pock. I was requested, when he was sent to me, to give my opinion: I did so, by asserting it to be modified small-pox. My decision caused the authorities at once to place the house he had occupied in strict quarantine, and to watch those who had been living with him. Ten or twelve days after, a woman, who had resided in the same house, had the disease. Others living near soon took it; and it spread from this man, until it got all over the island, destroying hundreds, and, indeed, thousands.

How did this man get the disease? He at first declared that he had not been near the *Lily* sloop, which had brought the negroes; and it was for some time a mystery how he got it. At last it was discovered that he had been near, and he confessed to having been alongside the *Lily* in a barge which took water to that vessel. Although strict orders had been given, that no person on board the barge should have any communication with those on board the *Lily*, yet, having been alongside for some hours, and being very hungry, he begged a sailor to give him some food through a port-hole. This, he declared, was all the communication which took place. Had it not been for this man's misconduct, the island might have escaped the dreadful scourge. Although the attack he had was so modified as to resemble varicella, yet it had the effect of causing the whole island to become affected with the disease.

9, Orme Square, Bayswater, November 1851.

CONTRIBUTIONS TO THE TREATMENT OF UTERINE DISEASE.

By EDWARD L. FALLOON, Esq.

CONSIDERING that the views put on record, and the practice advocated during the last two years, in the able work of Dr. Henry Bennet, are so opposed to previous and still prevailing opinions on uterine disease as expounded by our ablest obstetricians, it is surprising that detailed reports in confirmation of his statements have not appeared in greater abundance. The profession, in fact, has been nearly silent, so far as the publication of clinical experience is concerned; for the energetic denunciations of controversial writers have not given proof of much actual practice on the part of the combatants. It is therefore with the hope of contributing to the supply of what appears to be a want, that I now offer the result of much attention to the subject during the last three years. I trust that my example may be soon followed by others, whose capabilities and opportunities of investigation are more ample.*

Personally unknown to Dr. Bennet, I approach the subject with an unprejudiced mind, my sole design being to test the accuracy of his statements, as I am solicitous only for the supremacy of truth. In relating cases of "chronic inflammation and ulceration of the cervix uteri", I shall endeavour to avoid a wearisome detail of similar cases, by giving specimens as they are met with in practice, under different circumstances, and in varying conditions of life. I proceed, then, to relate six cases;—in the relation of which there must of necessity be some degree of similarity.

1. In the married state, where children have *not* been borne.
2. In the unimpregnated state, where children *have* been borne.
3. In the newly married.
4. In the pregnant.
5. In the widow.
6. In advanced life.

These will include all phases of female existence, except the virgin state, in which, however, the disease *is* found (and in which I have treated some cases very successfully); but, for obvious reasons, such cases do not nearly so frequently present themselves.

CASE I. In April 1850, I was requested by her husband to visit Mrs. A., aged 21. She had been married two years and a half, but had had no family. She was the child of healthy parents, and looked fresh herself; I had some difficulty on this account in getting the information I required. She stated that before her marriage, she had suffered for two years at her monthly periods in increasing measure; she felt as if something was wrong in the neighbourhood of her womb; had pain in the right ovarian region, but took little notice of it, never mentioning it to her mother; she was afraid of the touch. After her marriage she enjoyed tolerable health; but the catamenia ceased. After a long walk, she miscarried ten months after her marriage; this was attended with considerable hæmorrhage, for which no treatment was had recourse to. Ever since, her former symptoms have been aggra-

vated. She now suffers much at her catamenial periods, which return too frequently, and are preceded by hysterical spasms, and sense of weight in the pelvis after walking: she is also easily fatigued, every emotion of the mind producing pain in the right side, which she characteristically describes as "something moving there"; she has constipation, unrefreshing nights, awaking tired with a clammy tongue; has anorexia, pruritus, slight pain on coition, and purulent discharge *per vaginam*. Notwithstanding all these symptoms (not one of which I should have been told, had I not interrogated closely), she pressed upon me how *well* she was; but has since acknowledged that she never told me how *ill* she was, and how much she suffered. I had not acquired so much information about, or such expertness in the management of these cases *then*, as I since have in the school of experience; still, I felt I could not conduct this case satisfactorily without an examination, to which she intelligently consented. The uterus was of healthy size, moveable, sensitive, and slightly retroverted, the cervix felt flattened and hypertrophied, the os open, with a velvety margin; the speculum detected an extensive ulceration of the size of half a crown, with raised hardened edges, and granular bleeding surface. I need not enter into the details of treatment; suffice it to say, it consisted in the application to the os uteri of six leeches once repeated, cauterisation with the nitrate of silver, alternated with the acid nitrate of mercury, at intervals of not less than five or six days, with the use of aluminous injections and the cold hip-bath for a period of ten months, with progressive local and general improvement.

She was not seen for a month or more, when she returned, stating she felt her right ovarian pain slightly again, and some of her old feelings; that she had noticed gushes of pure water from the vagina lately, at intervals of two or three days, so much so as to saturate her dress, without any pain. On examination, the cicatrix of the former ulcer was very evident, looking moist and vesicular, but without any other evidence of the disease which these symptoms indicate: the os uteri was still too open. I cauterised the whole surface with nitrate of silver, which gave more pain than at any former time; and passed one of Dr. Bennet's smaller sized cylinders of potassa c. calce, into the cavity of the os; the pain from which was soothed by a little inhalation of chloroform. After three months, there was no more gushing of water, her general health was good, the menses regular and much less painful, and the os was closed so as hardly to admit a No. 5 bougie; she could walk any ordinary distance without fatigue or inconvenience; in fact, she felt and looked well.

June 1, 1851. I saw this lady to-day, and the report was most favourable; her only complaints were, being rendered uncomfortable by connexion, and feeling swollen. There was slight vaginitis, which was relieved by leeches.

September 19, 1851. All her ailments have ceased to exist. The only symptom left was the right ovarian pain on any excitement, fatigue, or fright; for this I tried the opiate suppository, so highly spoken of by that distinguished obstetrician, Dr. F. Churchill, in an article in the *Dublin Quarterly Journal of Medical Science* for August 1851. I have seen her since, and she told me she derived decided benefit from it.

REMARKS. The chief points of interest in this case consist in the disproportion between the amount of complaint made by the

patient herself, and the extent of disease found on investigation. Had I contented myself by treating the disease as she represented it, without special interrogatories arising out of a study of this particular form of disease, the result proves that I should never have treated it successfully. That her ailments *did* arise from the uterine disease, is proved by the fact, that she recovered without any medicine, except an occasional aperient; it shows, moreover, to what an extent the local disease may progress, without any consciousness on the part of the patient.

CASE II. My second case occurred in a married woman, who *had* borne children, but was not pregnant during treatment. Mrs. B., aged 46, mother of nine children, had had two abortions; she never felt well since her last confinement, twelve years ago. I attended her in December 1850, for bronchitis. She recovered and went to the country. On returning to town, she became debilitated; all the secretions were out of order; the urine scanty, highly charged with lithates; the bowels irregular, sometimes too free, at other times constipated; she had emaciation, white tongue, restless nights, weariness: in the mornings, anorexia, nausea, and extreme retching. I endeavoured to meet these symptoms by appropriate treatment, with partial success; but her health did not improve in proportion. I was requested to see her in the month of January following, for a severe pain under her left breast, not increased by a deep inhalation or pressure, which resisted all external irritants, and was accompanied by occasional chills and evening flushings. Up to this time, the treatment of this case was most unsatisfactory to my mind; I scarcely knew what to make of her. When I happened to inquire if she never had a pain lower down, she said, "Yes, for a long time; a *curious pain*, like the ticking of a watch, as if something moved there", in the left ovarian region. I then found she had a purulent discharge: the catamenia were still regular, but excessive and painful. On these grounds alone I examined her, and found an hypertrophied cervix, flattened and indurated, an ulceration of considerable extent around the os (which was open enough to admit the first phalanx), penetrating high up the cavity, and covered with pus.

Here, then, was the secret of all her hitherto anomalous symptoms. I confess I was nigh leaving her, in perfect ignorance as to what was the matter; and this one "curious pain", as she called it, led me to suspect the cervical ulceration. It was most satisfactory to my mind. Cauterisation with nitrate of silver, weekly repeated, and aluminous injections, were persisted in for the space of two months, with slow improvement, as the ulceration was unusually extensive, and of long standing; the hypertrophy was so enormous, as hardly to enter the largest speculum of Coxeter's, when dilated to the full. She was beginning to lose heart, and I was disappointed with the tediousness of her case, when I happened to read Dr. Bennet's paper on the superior advantages of the potassa cum calce in these chronic cases; and I directed Mr. Lowe, of Islington Square, to procure me some from Squire, of Oxford-street, London. I used it on two occasions, at intervals of three weeks; its application gave little pain, but nothing could be more marked than her improvement: the uterus, which was very low down, had regained its place; the indurations melted down, and the os contracted to its normal size and natural hue, without any ulceration; all her general symptoms vanished; and she is able to return to

her duties in her shop, and go through a great amount of exertion, without fatigue, or feeling it a labour as formerly; so that little better than three months have elapsed since the first cauterization up to perfect cure of all her unaccountable ailments, without, I may say, any medical treatment, except a few bismuth powders. I saw her on the 12th May 1851; her health, strength, and happy looks, were perfectly restored; the catamenia returned regularly without pain; in fact, she was without back-ache, head-ache, or heart-ache.

It is quite clear to any unbiassed intelligent mind, that no amount of medicine singly, however skilfully prescribed, could have restored this woman to health, not to say one word about what the consequence might have been on the cessation of her catamenia, if no specific treatment had been adopted; viz., in all human probability an attack of cancer.

CASE III. I was requested in June 1851 to see Mrs. C., aged 22. She had been married four months. The catamenia first appeared at 13, without pain, but two years ago they became very painful, requiring her to lie in bed all the first day. She had been in bad health ever since her marriage on the 25th of March, and had passed over three months without her menses appearing; but there was no other evidence of pregnancy than the morning sickness. There was no areola, nor alteration of figure. The uterus was of ordinary size. She had, however, lost flesh, rested badly, was anæmic, dispirited, and nervous to a high degree, disliked society, did not enjoy anything; the stomach rejected all or a great portion of every meal. She stated that she suffered from "whites" and occasional back-ache. Finding that she must leave on the last day of July with her husband, who was bound for the Cape, I determined to lose no time, and told her what I suspected, and that without being satisfied on this point by an examination I could give no opinion, nor would I undertake the treatment of her case. She was a sensible young woman, and yielded a ready assent. A digital examination gave little pain, and conveyed the impression of a soft velvety circle, distinct from the surrounding surface; it is to be *felt*, not described. The os was abnormally open: the speculum brought to view a far greater amount of disease than I was prepared for, or the symptoms warranted me to expect—a true ulcer, such as would satisfy the most fastidious pathologist, of the size of half a crown; the cervix was not hypertrophied. The treatment was the ordinary cauterisation with the nitrate of silver every five days, alum injections, an occasional enema, air and carriage exercise, and no medicine. The effect was magical; after the very first application of the caustic, I had a note from her mother the next morning, stating her alarm at seeing the usual coloured discharges during the night (a slight oozing from the ulcerated surface that new patients ought to be told to expect, as a result of the cauterising), but adding, "in all other respects there is a marked improvement. She has asked for her breakfast, taken it with a relish, and kept it—what she has not done for weeks, and is quite cheery." The local and general improvement kept pace with this report; and suffice it to say, she left for the Cape, "*Sana mens in corpore sano*", having gained flesh and improved in health, strength, and appearance.¹ Now, according to

¹ October. I have been informed that the vessel was "spoken" since, and her husband writes to say, that his wife was very well, and bore the voyage admirably.

my judgment, here is a model case, extracted verbatim from my note book; and I will thank those who have been endeavouring to pour contempt upon the modern treatment of uterine disease, to account for the rapid improvement in this young lady's case, in any other way than by admitting that the local disease was the cause of the whole of the general disturbance of her health—by the fact, that they all gave way, *pari passu*, with the healing of the ulceration. Dr. J. Bird in his article on "Rheumatism in the Tropics", (LONDON JOURNAL OF MEDICINE, March 1851, p. 227), very adroitly tries to cast discredit on this mode of treatment, by speaking of rheumatismal dyscrasia occurring in all cases where the circulating fluid becomes deteriorated by the absorption of foreign poisonous matter, "as in uterine affections, that give rise to those diseased conditions now fashionably treated as local diseases, by caustic and other like applications," etc. In the above case, there was every evidence of dyscrasia; and yet that state of body gave way to the cure of the local disease, without any medical treatment whatsoever, *not even a globule*; although, had I been dishonest enough to use this latter fraudulent panacea, no doubt to it would have been attributed all the benefit derived.

CASE IV. Mrs. D., ætat. 24, a widow, consulted me in November 1850. She stated that she had a difficult labour six years ago, and had acted imprudently in going about too soon. Three years ago, she had much watching and anxiety about her husband, who died of phthisis two years ago, her health having declined ever since. She had been under treatment for many supposed diseases, by divers medical men, each differing from the other as to the *origo mali*; and she had taken much medicine, without any permanent benefit. She complained of excessive sickness at night, and after meals; general prostration of strength; languor and lassitude on the slightest exertion; irritability of temper, indigestion, obstinate constipation, furred and indented tongue; passed restless nights; a dull pain in the left ovarian region; purulent discharge *per vaginam*; bearing down; suffered pain at her menstrual periods, which were pretty regular. She seemed to have no suspicion what her disease was. On digital examination, the vagina felt hot; the cervix uteri very low; the anterior lip, elongated, hypertrophied, and tender; the os open and flabby. On separating the lips of the os uteri with the speculum, extensive ulceration was brought to view; the cavity and surrounding follicles were much inflamed. I ordered six leeches to the os, which were repeated in five days, with great benefit, though the hæmorrhage was rather prostrating last time. Cauterisation, with the nitrate, was carried on for two months, with marked improvement of the general health; her sickness ceased; her spirits returned; all the secretions were healthily performed; indeed, her *general* amendment was greater than the *local*, as the ulcerated cavity seemed to become accustomed to the stimulus of the nitrate of silver; and it is in such cases that the potassa cum calce comes to our aid with magical effect. On examining her a fortnight after its use, the elongation was removed, and the os closed to its normal size. She regained her healthy look, was able to undertake the duties of her house, and walk long distances, without pain, bearing down, or inconvenience; being in all respects a contrast to what she had been six months before.

Twelve months have now elapsed since her treatment commenced, and the above report stands good.

Here, then, is a case, where medical treatment had been skilfully applied, and signally failed; so that one is forced to feel that nothing short of the local treatment would have succeeded in effecting a perfect cure in less than four months.

CASE V. In April last, I was consulted by Mrs. E., aged 66, a widow, for what she termed "a dreadful attack of piles." I gathered the following history. The catamenia appeared at fifteen, without pain; she married at twenty-one, and had four children; had excellent health; she lived in luxury up to fifteen years ago, when she had an attack of metritis, treated by rest, leeching, etc.; the menses ceased at thirty-five. Her husband died fourteen years ago, when domestic troubles pressed her sore, and her health began to decline; and, from her report, the uterine symptoms have made rapid progress, without her being aware that her womb was the seat of disease. She looked very haggard and bent down; and, on examining for the enormous piles I had been led to expect, a bleeding, ulcerated, honeycombed, shapeless mass presented itself, as large as a good sized pear, which, on close inspection and sponging, turned out to be the prolapsed uterus, inflamed, enlarged, and ulcerated in its whole extent. The anterior lip was so elongated as to obscure the os, until it was lifted out of the way; the first phalanx was admitted with ease into the cavity; and the cervix was greatly hypertrophied. I cauterised the whole surface with the nitrate, ordered her to lie down, live generously, use astringent injections, and enemata when necessary. This treatment was carried on for three months, with wonderful improvement; the uterus gradually lessening in size, and assuming a healthy appearance. But the improvement has been most striking during the fourth month, owing to one application of the potassa c. calce; it will not now prolapse, although no mechanical supports (I abhor them) have been used.

Six months have now elapsed since I commenced to treat this lady, and the ulceration is now quite healed, the hypertrophy is gone, the cervix has assumed a perfectly healthy look, she is twenty years younger in appearance, and can walk two miles, without prolapsus, fatigue, or pain. I may just mention, that this lady's daughter, now aged 35, has prolapsus uteri to a great extent, and that on examining her a few days ago, I found the uterus hanging out fully an inch, and a polypus projecting from its cervix.

CASE VI. It only remains for me now to give a case of this disease occurring during pregnancy. I have had three interesting cases lately under these circumstances, and will briefly notice one of them. Mrs. F., aged 32, the mother of five children, (the youngest four years old), sent for me about two years ago, to attend her in a bad miscarriage, which came on without any sufficient cause. She removed to Southport, where I had occasion to go about ten months afterwards, and called upon her, when she informed me she had had another abortion, equally unaccountable, adding at the same time, "that she was pregnant then three months, and felt as if she should miscarry while she was talking to me"; and stated that she never was without that feel,—bearing down, and inability of walking. She was hysterical to a high degree, and her general health had greatly declined, from restless nights, indi-

gestion, etc. Her history aroused my suspicions, I told her what I suspected; and a meeting was arranged accordingly. I found the uterus very low down, os open, cervix enlarged, but not hardened. On introducing the speculum, a quantity of purulent matter oozed from the os uteri, on brushing it away, a granulating ulcer was exposed, which bled easily; the lips of the os had the usual congested appearance which they have in pregnancy. I cauterised the ulceration externally, and for half an inch up the cavity, only nine times, (as her residence was fifteen miles off,) and the progress was astonishing; so that, at five months' gestation, she felt as if a load was removed from her loins, she could walk with comfort, without bearing down, eat and slept well, and was safely confined last month.

I could give a number of such cases, showing that abortion is the almost inevitable result of this disease, if it be left undetected and untreated. Should the powers of life be so strong as to resist this disposition, or should the disease not have continued long enough to produce that depression of the organic nervous system, wasting, and general ill health, *then* it almost always produces premature labour; or, if the person be originally strong, and goes on to the full time, an emaciated foetus is born, and most generally there is flooding. I have watched these cases closely, and the result was one or other of these occurrences.

I look, therefore, upon pregnancy supervening on this disease as a great misfortune, for two reasons: first, because the uterus cannot carry on two processes—feed a foetus, and an ulcer or inflammation—without damage; and, secondly, because we cannot be so bold in our remedial measures, nor consider it safe to use any stronger application than the nitrate of silver, which, I am persuaded, is too weak to overcome the diseased action in old standing cases. I have been more bold in the use of lunar caustic in these last cases than authorities warrant, yet I have never known any bad consequences; on the contrary, I believe it will most certainly prevent impending abortion, if the case is seen early enough. However, this disease is comparatively rare in pregnancy, as its tendency is most generally to prevent conception; and its long continuance, without detection and treatment, will most commonly produce sterility. I had a remarkable instance of its power in this respect lately. A female, who had been married upwards of four years, without conception, called upon me, during the summer. She stated, that her health had been very bad ever since her marriage; she had been under many medical men and quacks (homœopathists), without deriving any benefit. She looked haggard, livid, and anæmic; her mind was much deranged, she fancying that her husband was going to stab her in the night: she also complained of awful dreams, hysterical attacks, dragging about her loins, and painful (though regular) menstruation.

On examination, I found a prolapsed uterus; an hypertrophied cervix hanging externally, with an ulcer around the open os; leucorrhœa:—here was clearly the cause of all the mischief. I used the potassa c. calce at once, which gave great pain, and seemed to aggravate all her symptoms; the ulceration was dressed weekly with the nitrate of silver, and in six weeks the change was most striking; the prolapsus became less, her horrors ceased, and her general health

improved. In consequence of the prolapsus having continued so long, I could not expect that to be perfectly cured; so I ordered her to wear (as necessary to her comfort, though ever objectionable) a new gutta percha support made by Coxeter, the best and lightest thing of the kind I know of. In two months she returned, expressing her alarm that her courses had ceased, and begging me to give her some medicine to produce their flow; with this request of course I did not comply, giving my reason, that there might be a natural cause for their cessation; at which she incredulously smiled; however, she was not a little surprised to find pains coming on her four months afterwards, which ended in a miscarriage, to her great disappointment. I recollect examining one lady, who had been married four years without family, where I found only erosion around the os, which was cured by a few touches of the caustic, and she became pregnant in two months afterwards; and I have since attended her in confinement at the full time.

I must conclude by expressing my thanks to Dr. H. Bennet for the valuable instruction I have derived from the study of his writings. I commenced their investigation with an unprejudiced mind, having no theory to support, nor interest to serve, save that of truth; and my daily increasing experience in these complaints convinces me how common they are, and how appropriate is his method of cure.

I fear that the tendency of the recent papers of Dr. W. F. Mackenzie are unfavourable to the due extension and adoption of Dr. Bennet's principles. Dr. Mackenzie is an able writer; but I trust he will pardon my freedom in objecting to the manner in which some of his cases are reported, and to the inferences drawn from them. In the May Number of the LONDON JOURNAL OF MEDICINE, he reports some cases of what he calls *irritable uterus*; but when I come to study these cases, I find in almost every instance, all the symptoms of chronic inflammation and ulceration of the os uteri. Take any of the ten cases:—Case VI, for instance: “Ch. W., suffering from great pain and bearing down, back-ache, both increased by walking and standing; leucorrhœa, painful, and frequent menstruation, prolapsus, tenderness on examination; a premature confinement eighteen months before; tongue furred, appetite bad; constipation; disorder of stomach and digestive organs, anæmia:” and then it is added, “uterus not otherwise diseased.” We are not told what measures were adopted to ascertain this important fact.

Then, again, in Case VII, after detailing as well marked a case of chronic uterine inflammation as it is possible, I am told that chronic uterine neuralgia, with these symptoms, is dependent on derangement of the general health, anæmia, etc. Now I appeal to any unprejudiced man—is this so? is it borne out by Dr. Mackenzie's own cases or those above cited by me? is it not precisely *vice versa*? Once more, and I have done. “Case IX. S. W., ætat. 33, suffering for many years from constant pain in the uterine region, great pain in back and loins; profuse leucorrhœa; cervix extremely tender, no prolapsus, nor presenting any unnatural condition, *except a little puckering and irregularity about the os*; menstruates with great pain, suffered from hæmorrhage after each of her children, tongue for years furred, dyspepsia, constipation, anæmia, hysterical,” etc. I am not

surprised to learn at the end of the narration, that the patient received no benefit from the treatment adopted. Even had the result been otherwise, it would in no wise alter the facts; because I grant, that all my cases where anæmia, etc., existed, might have been benefited by iron and counter-irritants; but could they ever have been cured by them? Before I knew as much as I now do about the nature of these cases, I have whitewashed many by chalybeates, rest, and banishing mothers from their homes; but let them only return to the old *regime*, and they invariably lapse back to that condition whence they started.

I am free to confess that Dr. Bennet's method of practice may be abused, and discredit cast upon the legitimate use of the speculum by its indiscriminate employment. But because some are found base enough to abuse medical confidence, is it therefore to be abandoned, and a good system decried?

4, Shaw Street, Liverpool, Nov. 21, 1851.

MORBID VASCULARITY OF THE LINING MEMBRANE OF THE FEMALE URETHRA.

By GEORGE T. GREAM, M.D., late one of the Medical Officers to Queen Charlotte's Lying-in Hospital.

UNDER the name of "Vascular Tumour of the Orifice of the Meatus Urinarius", this affection was first described by Sir Charles Clarke, in his valuable work on the *Diseases of Women*; a work giving evidence of the highly practical knowledge of that author, and which, although published more than thirty-five years ago, may still be considered as one of the best guides to the diagnosis of this class of maladies.

He writes: "There is in most women a degree of projection round the orifice of the meatus urinarius, and from this part sometimes the tumour arises, to which the above name of the vascular tumour of the meatus urinarius has been applied." I have ventured to refer to this affection under another name, because my own experience, confirmed by that of others, tends to show that it does not always appear as a tumour, but that it may be present under other forms, accompanied by the same general as well as local symptoms.

Dr. Ashwell has correctly described the disease, but he speaks of it more especially as a tumour, and states that it is rarely seen after the cessation of the menses. I am led to think that he is mistaken in this respect, for I have witnessed the disease as often in elderly women as in the young.

Dr. Meigs, of Philadelphia, has alluded to the complaint in his volume on *Females and their Diseases*; but he merely refers to it as a portion of the lining membrane of the urethra, "hypertrophied and inflamed, which may be readily cut off." His observations, however, are contained in a very few lines, in which the importance of the disease is altogether overlooked.

I am not aware that any other authors have noticed the affection at all; but certainly none have regarded it with that consideration which

it calls for, when we consider the suffering attending it, and its liability to return, unless properly treated and entirely removed. The fact that it is one of those diseases which do not frequently come under the notice of medical men, renders the circumstance of its being so little alluded to by authors especially remarkable.

It presents itself under three different forms : the first, most likely, being the incipient stage of the second ; and the second, the beginning of the third. But this is only conjecture ; for the opportunity of proving it has not yet been afforded to me. It may be present as a simple vascularity of the lining membrane of the urethra, without any elevation whatever, extending some little distance towards the bladder ; the membrane itself being highly florid in colour, and extremely tender when touched, or during the passage of the urine. This is the usual character of the disease, when it is confined within the canal ; but Sir Charles Clarke relates the case of a patient in St. Bartholomew's Hospital, in whose urethra there was a tumour of a scarlet colour, nearly filling up the canal. The occurrence of a tumour, however, within the urethra is unusual. This is probably owing to the pressure of the sides of the canal preventing the elevation of the dilated vessels, and to the passage of the urine having a similar effect.

When the vascularity is within the urethra, no morbid appearances present themselves externally ; but if the symptoms call attention to the part, and the lining membrane is exposed by making pressure around the meatus, the highly florid appearance will at once be detected.

The second form in which the disease appears, is that of a flattened vascular spot, with but slight elevation, surrounding the orifice of the urethra, highly florid in colour, and exquisitely tender when touched : it is so little elevated, that it can scarcely be called a tumour. The redness extends from it into the canal for some little distance, but the membrane within, although florid in appearance, is quite smooth on its surface ; whereas the external spot of vascularity is slightly granulated, because it is not modified by pressure from the sides of the urethra.

In the third stage, the disease consists of a distinct tumour, granulated, and attached, sometimes by a broader base, sometimes by a narrow one, and, in some instances, even by a slender pedicle to the side of the urethra, or just externally to it ; and, in almost all cases, some dilated vessels will be seen extending from its base to within the urethral canal.

When there is an actual prominent tumour, the local pain and the constitutional symptoms are greatly increased in severity. In some cases, the peculiar scarlet colour of the part has attracted the notice of the patient ; but in many instances, particularly when the vascularity is within the urethra, not only has the actual seat of the disease escaped her observation, but it has also been overlooked by her medical attendant, who has referred to the uterus as the diseased organ, has stated that its cervix was inflamed or ulcerated, and caustic has sometimes for weeks, or months, been applied, without affording the least advantage to the patient.

This vascular disease is not at all to be considered as similar to an affection situated in the same parts, having its origin in a varicose state of the veins, which causes some uneasiness and is accompanied by a mucous discharge, but which does not produce the same acute

suffering nor the great constitutional disturbance, nor is the appearance the same. In the vascular disease in question the blood contained in the vessels is arterial, while in the venous enlargement it is dark coloured, and the distended veins have the same appearance which veins have in other parts of the body when in a varicose condition. Attention is first called to the vascular disease, by an uneasy sensation at the lower part of the body, and pain passing down the thighs; and pain when urine is voided, or when the part is touched; slight bleeding also occurs occasionally, owing to the rupture of some dilated vessel, whose covering is always much attenuated. There may be frequent desire to pass urine; and walking causes great suffering; while accompanying these symptoms, there is always copious mucous discharge, which is excessive when the disease appears in the form of a tumour. Owing to which, as well as to the constant uneasiness and frequent acute suffering, the patient becomes emaciated and weak, and it is surprising to find so many and such severe symptoms arising from a disease whose extent is confined within such limited bounds; but there is clear evidence that it does produce them in the fact that, immediately upon the destruction of the vascular spot, or even on its partial removal, a comparative freedom from the symptoms is at once enjoyed.

Upon a digital examination of the vagina being made, great tenderness is experienced by the patient at the vaginal orifice, and still more if pressure is made towards the pubes; and bleeding from this part will almost always be induced by the examination. These symptoms necessarily call for further investigation, and the nature of the disease becomes apparent.

The only mode of cure is the destruction of the entire congeries of vessels; and if the smallest part of it is left, the disease will most certainly return. It has been customary to employ excision with scissors, and afterwards to apply potassa fusa, or to use the latter alone for the removal of the complaint. A ligature has also been recommended as a means of removal; but there are objections to both these modes of treatment, which those who have used them will, I am confident, admit. In order that the scissors may be employed, the vagina must be held open by an assistant; but the spot to be excised is so covered by the pubes that it cannot be sufficiently exposed to ensure the due performance of the operation, and the potassa fusa applied to the bleeding surface is effectual only in those cases in which the disease is very superficial, and by itself this caustic always fails to destroy the part entirely; hence we have a return of the complaint, and a repetition of a most painful operation.

If the disease is within the urethra, these means of cure are totally inapplicable. If the ligature is employed, it may in some cases prove efficient; but in others it would be impossible to effect a cure by means of it, as the part affected could not all be enclosed.

Having several times been called upon to treat cases which had been before apparently cured (by myself and others) by the means mentioned above, I was led to think of another mode of treatment which would be more successful; and it occurred to me that the application of strong nitric acid, in the manner adopted by Mr. Henry Lee for the destruction of hæmorrhoids (and which proves so successful), would be equally applicable to the vascularity of the female urethra.

Sufficient time has now elapsed since its application in three instances, and yet there is not the least inclination to a return of the disease in them; and as in others, although more recently treated, there is likewise no such disposition, I am able to speak with some confidence respecting this mode of cure. Its comparative advantages consist in the acid being minutely applicable to each individual part of the affected spot, which it has the power of entirely destroying, whether within the urethra or outside of it; in its producing no fear in the patient as does the anticipation of an operation by a cutting instrument; and in the pain which it causes very quickly subsiding. Dr. Ashwell observes: "The main trouble we encounter in the treatment of these tumours, is their tendency to reappear. If they are snipped off with scissors, and the part allowed spontaneously to heal, there is every probability that it will repullulate and cause the same symptoms. If these growths are not moveable and attached by a pedicle, I have found that the diligent application of nitrate of silver freely applied over and around them, will eventually get rid of them: but the process of destruction is tedious and attended *with great agony*. It is generally indeed necessary to apply opium to the part after application, and to soothe the patient by some morphia or extract of hyoscyamus at night." Now there is no such necessity after the application of nitric acid; but the patient complains of no pain after a few minutes have elapsed, and she is able to walk about without inconvenience.

But there is a difficulty in exposing the part sufficiently, and in preventing the sides of the vagina from collapsing too soon after the application of nitric acid; and this is overcome by the use of a speculum, invented, I believe, by Mr. Hilton, for the removal of hæmorrhoidal excrescences. A portion of the side of the speculum, extending nearly to its internal extremity, can be removed after its introduction into the vagina, and if this part of it is just under the pubes, the spot of vascularity will project into the tube; but should only the lining membrane of the urethra be vascular, it will be readily exposed by pressing the speculum firmly towards the pubes against the surrounding parts: and the acid can be applied while the pressure is kept up.

A small rod of glass, or a piece of hard wood in the form of the stick of a camel's hair pencil, is the best thing with which to apply the acid; and this should be held to the part for about a minute, care being taken that each enlarged portion of the vessels is completely destroyed, and in about three or four minutes the pain attending it ceases, and the speculum can be removed. It will be better to examine the part in about four days from the time of the application of the acid, and it often will be found healed with no trace of the complaint left. More frequently it presents an unhealed sore, but an absence of the disease. If, however, there be any vessel remaining having the peculiar scarlet colour, it should be again touched with nitric acid, otherwise the symptoms will rapidly return.

Hertford Street, May Fair, January 1852.

BIBLIOGRAPHICAL RECORD.

THE LONDON PHARMACOPŒIA AND ITS REVIEWERS.

1. ON THE NEW LONDON PHARMACOPŒIA. By J. BIRKBECK NEVINS, M.D. Lond. *London Medical Gazette*, April 4th and 18th, 1851.
2. PHARMACOPŒIA COLLEGII REGALIS MEDICORUM LONDINENSIS, 1851. *London Medical Gazette*, August 1st, 1851.
3. IDEM. *Medical Times*, July 19th, 1851.
4. IDEM. LONDON JOURNAL OF MEDICINE, August 1851.
5. IDEM. *Monthly Journal of Medical Science*, May 1851.
6. IDEM. *British and Foreign Medico-Chirurgical Review*, October 1851.
7. IDEM. *Edinburgh Medical and Surgical Journal*, October 1851.

WE must all feel the truth of La Rochefoucauld's maxim, "To know things perfectly, we should know them in detail, and this is almost infinite"; so that it is not the occasional errors, to which even critics are liable, but the objectionable tone which some of our contemporaries have indulged in whilst criticising the lately issued Pharmacopœia Londinensis, that is both our apology and justification for adopting the unusual course of reviewing reviewers. An ancient, important, and learned corporation, comprising amongst its members the most eminent physicians of England, should at least be treated with courtesy.

We do not abandon one whit of the claims and privileges of journalists, of declaring their judgment fully and freely upon the professional actions, writings, and opinions of the practitioners of medicine and its allied sciences, whether in their corporate or individual capacity; but we feel assured that we both protect and justify such rights, by protesting against the misuse of critical license.

We by no means include in these censures all the reviews we are about to remark upon: for we gladly acknowledge, that the just canon of criticism,—

"Survey the whole, nor seek slight faults to find,"

is especially the characteristic of the remarks of the *Medico-Chirurgical Review*, and of the *Edinburgh Medical and Surgical Journal*.

In our observations upon the reviews, the titles of which we have prefixed to this article, we purpose to investigate how far many of the censures so liberally bestowed upon this publication of the College of Physicians are really merited, and whether the critics are sufficiently consistent with themselves, and have evinced such accuracy, and thorough acquaintance with the subject-matter of their lucubrations, as to entitle them to fill the judicial chairs which they have thought proper to occupy.

DR. NEVINS, the avowed author of the two first notices on our list, has for the most part contented himself with the easy, and at the same time instructive task, of pointing out the differences between the present Pharmacopœia and that of 1836, and so long as he confines himself to this object he travels over excellent and profitable ground; although, as we shall have occasion to show, he even here occasionally trips.

After some introductory matter, in which the change of the "old-fashioned" term sesqui- to ter-sulphuret of antimony meets with his approbation, this physician informs us (p. 615), that "a number of remedies of comparatively modern date are introduced", having previously told us that "the respects in which it

(the Pharmacopœia) differs from its predecessors . . . will not be found to be numerous"! Now we all know that number, size, weight, and many things more are matters of comparison, so that different people may fairly entertain opposite opinions as to what may constitute "numerous" differences; still, when we find that the alteration of names alone in the present Pharmacopœia occurs in upwards of forty instances, and that the number of substances and preparations omitted from the last and inserted in the present Pharmacopœia, together amount to no less than one hundred and eighty-six, to say nothing of alterations in retained preparations, we are led to imagine that this reviewer must have formed a somewhat capacious estimate of the number of alterations requisite to constitute "numerous differences" between a former and a recent Pharmacopœia.

As we proceed, we are told that; "in some instances, commercial drugs are now ordered instead of chemically pure ones": a statement which surprised us, as the College has furnished tests to which it requires its medicines to be submitted in order to secure their purity. "Quinetiam si quæ fuerint signa nondum in Pharmacopœiâ descripta, quæ ad puritatem in materie nostrâ examinandam faciant, ea, quo quæque loco stare æquum est, notis infra positis, inseruimus." Nor were we enlightened as to the distinction Dr. Nevins desired to draw by his statement, that "commercial nitric acid is now ordered instead of the pure acid of the last Pharmacopœia", which indicated a departure from the announced intentions of the College; however, on referring to Acidum Nitricum we discovered, instead of the word *venalis*, a concise foot-note attached, enumerating no less than seven tests, which appear to us to be amply sufficient both to detect any chemical impurity likely to occur in nitric acid, and also to ascertain whether a specimen of this acid is of the required strength. Still endeavouring to fathom our critic's meaning, we turned to the tests for nitric acid in the former Pharmacopœia, which are similar, indeed almost identical with the present, excepting the test for determining the strength. These references, however, gave us a clue to Dr. Nevins' meaning, which is evidently, that nitric acid P.L. 1836, sp. gr. 1.5, is the "chemically pure drug", pure nitric acid, "the strong pure acid", whilst the nitric acid of the present Pharmacopœia, sp. gr. 1.42, is the "commercial acid now ordered instead of the pure acid", a meaning which we fear will scarcely prove worth the pains we have taken to elicit it, for both these acids are commercial acids, and both are equally pure, the difference between them being that the former contains eighty, the latter sixty per cent. of "strong chemically pure" acid, the anhydrous nitric acid of Deville: Dr. Nevins having preferred the terms commercial and pure, which are inapplicable and do not describe his meaning, to stronger and weaker, which would have conveyed it to his readers. There are other trifling inaccuracies in this paragraph on nitric acid, as, when it is stated that "one part of acid to six of water, or thereabouts, is now ordered"; whereas it is three to seventeen, which is shorter than the Doctor's formula, and what the College has ordered instead of "thereabouts", and that "the strength of the dilute acid really remains the same", which really is not the case, the present dilute acid being rather stronger than the former, although we agree with the critic that "the physician will not have to make any change in prescribing it".

The notice under review, terminates with the complaint that "tinctures are still made in the old-fashioned way" (these old-fashioned ways evidently displease Dr. Nevins), and "extracts are still ordered without reference to the employment of evaporation *in vacuo*", respecting which we beg leave to remark, that the Pharmacopœia is not addressed to manufacturing chemists and druggists, some of whom still prefer the "old-fashioned way" of making tinctures by maceration, and whose laboratories are yet innocent of vacuum pans.

In his next letter, that of April 18th, Dr. Nevins continues his remarks

on the alterations of the new Pharmacopœia, assuring us that some eleven of these, cited by him, "are of no consequence, as they cannot cause mistakes"; a specimen of the opinionative positive style we both object to and dissent from, the College having deemed it of importance to call a thing by its right name, as sodæ bicarbonas, instead of sodæ sesquicarbonas, and that when a tincture is a compound tincture to call it so. But there is obviously no pleasing him in this matter, for he says, "Many of the changes, however, are not thus unimportant, and are liable to occasion confusion, because there is something for which it may be mistaken:" a sentence, in which the odd mixture of the plural and singular strikes us as liable to occasion confusion, and to the following instances of which, quoted by him, we demur. First of all, bitter almonds are never mentioned in the Pharmacopœia, and the variety of the almond, "dulcis", to be employed is specially pointed out in *Materia Medica*. Again, how "pil. colocynth. co." can "occasion confusion", and for what "it may be mistaken", we are at a loss to understand; for if a physician employ the "old-fashioned" term Extractum instead of Pilula, we cannot see that it would occasion any confusion in the dispenser's ideas, nor would it affect the patient, as pil. colocynth. co. of the present is almost identical in composition with the ext. colocynth. co. of former Pharmacopœias. Similar, and to us equally unfounded objections, are raised to the calling of the resin of guaiacum simply guaiacum, and ung. hydrarg. fort., ung. hydrarg., the Doctor himself observing that "the ung. hydrarg. mitius is now expunged from the Pharmacopœia". Acid. nitricum dil. is again erroneously stated to be of "the same real strength as formerly". "The proportion of the cathartic is diminished by one-fourth" in enema colocynthidis; which is the case in appearance only, not in reality; whilst of "ext. sarzæ", he means ext. sarsæ liquid., it is observed, "is now to be kept fluid instead of being evaporated to dryness", which we believe was never done.

Other remarks are promised at the close of this letter, but we have searched the pages of the *Medical Gazette* in vain for any further criticism bearing his name.

There is, however, a review in that Journal of August 1st, with which is conjoined a laudatory notice of Dr. Nevins' work. The preliminary observations, if not commendatory of the changes effected by the College, do not censure them as inexpedient, the first matter which elicits disapprobation being the retention of the Latin as the language of the Pharmacopœia; an objection which, to our minds, though valid, is somewhat weakly based on the intrusion of four English words, "troy-weight, porcelain, and stoneware", amongst the more stately Latin—a barbarism not utterly destitute of authority, and in any case insufficient to justify this sweeping and unhesitating sentence;—"Surely no further evidence can be required to show that it is desirable to write English for Englishmen, and not a strange mixture of English and Latin." To which we will only add, that whether an Englishman writes Latin or English, we think it is desirable he should write one or the other, instead of such a strange mixture of the two as "Preparata", so spelt wherever it occurs, or instead of neither, as "sulphuretum iodidum". Amongst "the imperfections and deficiencies" of the Pharmacopœia this critic notices,—“1. The want of notes accompanying the list of the *Materia Medica*, which should briefly indicate the nature and uses of each article. 2. The want of a table of doses. 3. A supplementary appendix, containing short notices of those remedies which the compilers may not consider to have undergone a sufficiently long trial to warrant their introduction into the body of the work.” With regard to Nos. 1 and 2, it seems objectionable for the College to quit the path of their predecessors excepting upon weighty grounds, or to lend their authority to statements which are often necessarily of a doubtful nature, respecting which the Fellows may themselves be divided in opinion. The wants, moreover, are already supplied in several

excellent text-books, and which, if well and efficiently executed, would render the Pharmacopœia a bulky and discursive book, instead of one moderate in size, brief in matter, and directed to a single and special end. As to the third objection, we think most men will consider that the College have exercised a wise discretion in adhering to their prefatory remark: "Nova quædam medicamina tam simplicia quam præparata addidimus, propterea quod longâ experientiâ comprobati visa sunt," instead of inserting in their Pharmacopœia an ephemeral race of remedies, which suddenly spring into notice, are tried, found useless or unsatisfactory, and as rapidly sink into oblivion.

Of the additions to the *Materia Medica* it is somewhat strangely observed, "those which now for the first time appear are few in number, and, for the most part, unimportant", when, out of the dozen instances cited in support of this remark, we find figuring as unimportant medicines, acid. gallicum, acid. tannicum, chloroform, atrophia (*sic*), and morrhuæ oleum, besides three essential oils, of which eight medicines it is said: "of the drugs here mentioned, only one or two enjoy any active properties"; a judgment, we imagine few medical practitioners are likely to coincide in. The remainder of the list is printed thus: "PANIS (!) AQUA DISTILLATA, SILEX CONTRITUS (!) VIOLA," we presume to express the absurdity of inserting such very useless articles in a Pharmacopœia; but Jove is not always thundering, nor are physicians always exhibiting morphia and mercury; and, to us, the omission of distilled water from the *Materia Medica*, which is the very article of the entire list most frequently directed to be used under Præparata; or of bread, the employment of which, for strictly medicinal purposes, is perhaps as frequent as any single drug in the list, merely because these things are both simple in their nature and easily obtained, would have been a glaring departure from that proper rule to be adhered to in drawing up a list of *Materia Medica* "quæ vel in morbis curandis, vel in medicamentis conficiendis usurpari præcipimus." Silex contritus, we find in the same Journal of April 18th, "is now ordered instead of magnesia, . . . by which the objections to the latter substance are obviated"; so that out of these dozen "unimportant medicines" we have only the poor, pleasant, and as many think useful little baby-physis, the violet, left to sacrifice to the critic, who proceeds,—“Whether, moreover, some of these, and others that have been retained, might not with great advantage have been omitted, or replaced by others of some utility, admits of much doubt”; to which very authoritative conclusion we humbly demur, and submit that we have already shown good grounds for a doubt and “something more”, and that however applicable the reviewer’s novelty, “quot homines tot sententiæ”, may be to drugs, there can be no doubt that every substance above mentioned possesses “some”, if not great medicinal “utility”. Of petty mistakes we may remark, that “argentum, curcuma, and lacmus” are *not* “omitted in the present Pharmacopœia”; that the list given does *not* comprise “all the compounds, the formulæ for which are now introduced into this edition of the *London Pharmacopœia*”, some twenty of these being wanting in the list, to make up for which a preparation, not of the College, but of the critic’s, “liq. morphiæ” to wit, is inserted, whilst chloroform has been transferred by him to the *Materia Medica*, and “extractum pareiræ” classed amongst the new preparations.

To use the introductory words of the author of the review on the Pharmacopœia in the *Medical Times*, we should “have derived considerable satisfaction” from his sketchy critique, had it not been disfigured by such flippancies as “its canine character in general”, “cacoëthes mutandi”, and the like phrases, applied to the College or its Pharmacopœia. His observations are for the most part judicious; and we must moreover congratulate this writer on his detection of the only important error occurring in the work he was reviewing, that of the omission of “dimidium” in the formula for tinct. ferri ammon. chloridi, which had escaped the observation, not only of

all his brother critics, but also of the various commentators on the Pharmacopœia, excepting the editor of Phillips' translation, who appears to have received authority from the College to correct it. We intend "no satire in disguise" by praising this reviewer's acumen, although we happen to know that Mr. J. Denham Smith, the editor of Phillips' book, was in communication with the authorities respecting this very matter, at the time of the appearance of this notice in the *Medical Times*, so that the reviewer may have heard of, and very properly lent his aid to the correction of this formula. The actual mistakes he has committed in this notice are but few, and, save one, of little importance. Thus he says, "the orange flower-water is omitted", when it is simply transferred to *Materia Medica*, obviously the proper place for it, it being always imported; that "the hydrated oxide of lead is removed to *Materia Medica*", it really being omitted altogether; that "treacle will make pills hard"; that by the use of essential oils in lieu of the crude drugs, the spirits of the P. L. will "lose their fragrance", etc. These are trifling slips; but he has fallen into a more serious and a double error in stating, that "the saturating power of dilute phosphoric acid is incorrectly given; it will require near 192 grains of crystallised carbonate of soda, instead of 132, for full saturation", having here not only confounded the combining with the saturating power of this acid, but being also in error respecting its combining power, for a fluid ounce of acid. phosph. dil. contains 40·5 grs. PO_5 , which require 162 instead of 192 grs. of cryst. carbonate of soda to form the Sodæ phosphas of the Pharmacopœia, and this, as is well known, being a salt possessing an alkaline reaction, would not fulfil the design of the College of ascertaining from its saturating power, whether acid. phosphoricum dil. be properly prepared or no. With the exception of these, and a few other trifling mistakes, and the tone prevailing throughout this review, we have reason to admire the clever abstract of the changes effected in the new Pharmacopœia, as affording an admirable epitome of the omissions, insertions, and alterations in that work.

The *Monthly Journal of Medical Science* laments the absence of a Pharmacopœia for the three kingdoms, but acquits the three Colleges of blame in this matter; and, after various remarks bearing upon the subject of a National Pharmacopœia, and some observations of a complimentary nature respecting the *Pharm. Lond.*, proceeds thus: "We do not by this pledge ourselves to a general approval of its details"; a remark the reviewer enforces by laying before us his views on the construction and contents of a national pharmacopœia, too long for us to extract, but which appear to have been modelled upon those of the London College, so exactly does that work fulfil the conditions required by the reviewer, viz., that natural productions and articles made on the large scale should be inserted in *Materia Medica*, whilst "the preparations and compounds, which it is the special business of the dispensing druggist to prepare, are placed in the second part." Thus, we thought, the College and this critic completely agreed, but soon found cause for changing this belief, by discovering a complete revolution in his opinions immediately following some quotations from the prefaces of the three Colleges, by the startling announcement—"We at once avow our hostility to the course adopted by the London College, and think with the two other learned bodies, that the formulæ for these preparations ought to be given." Oddly enough, this declaration of hostilities is founded upon the alleged absence of formulæ for "the vegetable alkalies and their salts, and many metallic compounds, as calomel, red oxide of iron, white bismuth", etc., when, had he referred to the book he was reviewing, he would have found in their proper places, formulæ for every one of his specially named examples of their absence; and as to the vegetable alkalies and their salts, we entertain somewhat more than a doubt if these be medicines which the "surgeon-apothecary and ordinary retail druggist are perfectly competent to prepare for

themselves", than to do which, we have a strong notion that "they will find it more economical, and in every respect better, to obtain these substances by purchase from the manufacturing chemist"; which latter view, although self-contradictory in this critic, is precisely that expressed by the London College in the portion of the preface to their work which elicits his hostility. The College, unlike the old man in the fable, has not attempted to please everybody, and has thus encountered the hostility of this critic, who, speaking of processes for the alkaloids, declares "these formulæ ought to be given"; whilst another reviewer remarks, "with regard to the omission of the processes for making the alkaloids, we think the College has acted wisely"; and a third observes, "neither would it be reasonable to object that so few formulæ are given"; with which last opinion we perfectly coincide.

The hostility now assumes a most determined character; for a process which the College had silently consigned to the tomb, that for morphia hydrochloras, is resuscitated for the purpose of being again slain by this redoubted critic. Now, had this been a most thorough reprobate of a process and utterly worthless, which we deny, it being at least equal to any method for preparing morphia from which the use of spirit was excluded, known in 1836, still we submit that this merciless enemy might have refrained from doing execution on a formula past and gone, and nowhere occurring in the book under review. The exclusion of this and other processes, however, seems equally displeasing to this reviewer as the process itself was: "Some of these formulæ in 1836 were bad, but that is no reason they should have given none at all" (how none at all can be given we do not exactly perceive); "their obvious duty was to have worked at the processes, and not to have shirked the contest and taken shelter under the wing of the manufacturing chymist". And then he forthwith falls foul of the processes for making the chlorides of mercury, of which we can only say that we have known chemists who have worked at these processes, and yet, after the expenditure of much labour and money have failed to discover better; and moreover, that these very processes of the College are those usually adopted by manufacturing chemists, who would doubtless be even more grateful than the College, could the reviewer furnish them with better. We are tempted to pursue these inconsistencies, but must not press too hardly upon the patience of our readers, and therefore content ourselves with demurring to the dictum of this critic, that "the existence of formulæ in a Pharmacopœia is the very best way of defining and describing what the product of the process ought to be"; heartily acceding, both to the opinion and practice of the London College, that well-marked characteristics and readily applied chemical tests afford the "very best way" of ascertaining the goodness and purity of a medicinal agent.

To his question, "What are we to understand by muriate of morphia when we send for it to a manufacturing chemist?" we can only reply, "muriate of morphia, and nothing else;" and nothing else will the critic get if he sends to respectable houses and pays a sufficient price for the article, or even were he to condescend to employ the process of the Pharmacopœia of 1836, which "no one would ever dream of adopting". A somewhat similar reply may be made to the questions, "What do we understand by strychnia, by veratria?" We can assure the reviewer that it is unnecessary to procure strychnia "from a good foreign manufacturer, such as Merck of Darmstadt", in order to obtain it free from brucia; and as to veratria, it is more than doubtful whether this alkaloid has ever yet been obtained in a state of purity. We will, however, endeavour to explain to him, that what he is to understand by "muriate" of morphia, strychnia, and veratria is precisely what the London College directs him to understand; viz., a salt prepared from opium, an alkali prepared from nux vomica, and an alkali prepared from the seed of *asagræa officinalis*, each of which shall respectively exhibit the characteristics described in the notes appended to it; and we further

venture to assure him, that when so prepared and so characterised, that he will find these medicines, as he himself remarks of one of them with his usual inconsistency, "pure enough for any useful purpose".

We fear that this critic's zeal for the chemical purity of these alkaloids would hardly be rewarded, were his scheme of a congress of the Colleges to be carried out; for he tells us the Edinburgh formula for "muriate" of morphia *must* yield a salt containing a certain proportion of codeine, whilst that of Dublin gives a salt free from that alkaloid; that the Edinburgh and Dublin Colleges order processes by which "we get not strychnia, but, under this name, a mixture of strychnia and brucia". We do not ask, are these facts? but accept them as such, wondering all the while at the excellencies of formulæ so set forth by their advocate. Be this as it may, true or false, it appears certain that two, we will even go so far as to include the London College, and say the three Colleges are perfectly content to make use of these medicines without requiring absolute chemical purity in them; and we incline to the belief that the profession at large, instead of responding to the carping spirit of this reviewer, will be quite satisfied that these substances, as ordered by three distinct bodies of accomplished physicians acting independently of each other, are, at any rate, "pure enough for any useful (medicinal) purpose". It is, however, evident that in this case, as in former ones, these objections of the reviewer prove precisely the contrary of what he set out with, the necessity and superiority of formulæ over characteristic tests; for by his own admission the Edinburgh formulæ must yield impure articles in each case, whilst the much-abused plan of the London College renders it most probable, that whenever such medicines "*apud mercatores chemicos accuratissime et limatissime præparata*" are exhibited, that they will be far purer than those obtained by the formulæ upon which he lavishes his approbation. Amongst other notions, he appears to imagine that the *London Pharmacopœia* was compiled for the use of manufacturing chemists, "who are the people to be most thought of in the matter"; which only shows that he has not understood the preface, for nothing can be clearer than that such an idea was never entertained by the College, it being expressly stated, "*Non tamen abnuimus, quin possit fieri, ut aliis fortasse modis minori sumptu vel magis commode aliis in re chemicâ peritis eadem præparare liceat,*" and we altogether deny that "wholesale manufacturing chemists" ought to be thought of at all in the matter, the work is not addressed to such in respect to the preparations we have been discussing; let their chemicals be made from the materials and stand the tests specified by the College, and that is all that is needful. Moreover, even were the College to follow the counsel of this adviser, and compose formulæ to direct manufacturing chemists in their business, that body would deserve, and we are very certain would meet with, the laughter and ridicule always liberally bestowed on those who, according to our homely, but more forcible than elegant proverb, "teach their grandmothers to suck eggs": the details of difficult and complicated processes, kept secret by the inventors, and perhaps the result of the labour of years, are surely both unattainable by and unnecessary to even the most learned and accomplished of physicians, either individually or collectively.

We must follow our critic on these subjects no further, although we have not exhausted them, but proceed to his onslaught on the nomenclature and language of the *Pharmacopœia*. By the bye, with all his fastidiousness, he comes into court with unclean hands, as respects nomenclature, in quoting what he (in English which betrays his trans-Tweedian origin) styles "a deliverance" on this subject from the London College: he takes the College roundly to task for their "unintelligibility" and "perversity" in this matter, unmindful all the while of the meaningless, obsolete, incorrect, and unscientific terms he himself almost invariably uses, as "*muriate* of

morphia", "aquafortis", "red oxide of iron", "white bismuth", "bismuthum album", "hydrated subnitrate of bismuth", and so on, apparently as emendatory of the descriptive and correct nomenclature adopted by the College.

In characterising some of these reviews as flippant, we use the word, not with the view of giving offence, but simply because we cannot find another more applicable. There are flagrant instances of this style, in the review in the *Monthly Journ. of Med. Science*, and the following will serve as an example:—"There is something exquisitely amusing in the obstinacy with which they cling to their Latinity, but still more amusing is the coolness with which they do so, without offering one word of apology or explanation for this outrage upon common sense":—an *outrage* on a learned and eminent body of men, which requires no further comment from us to meet with just and universal censure.

THE LONDON JOURNAL OF MEDICINE has always been opposed to the retention, or rather, to the exclusive use, of the Latin as the language of the Pharmacopœia; but we admit that there would arise great inconsistency in using Latin in penning prescriptions, whilst the medicines ordered were authoritatively known to the dispenser only by their English designations; and were the compilers of our Pharmacopœia to retain the Latin appellations, and to employ the English for the remainder of the work, the book, to our minds, would be a most incongruous piece of patchwork, "like fustian heretofore on satin". What we would like to see, is an authorised Latin and English version, issued in one small volume by the College. Three pages of the *Journ. of Med. Science* are devoted to this subject, and then our reviewer winds up in the imperative mood, issuing his fiat for the course to be pursued in constructing a National Pharmacopœia, in six distinct "Let it be", to which injunctions we will hazard the addition of a seventh, that we have an intuitive perception the three Colleges will most surely adopt, which is simply—Let this critic have no hand in its compilation, till he has more carefully studied the subject; else, to use his own words, we fear the resulting National Pharmacopœia would be neither "useful nor creditable to the United Kingdom of Great Britain and Ireland".

The last two reviews of the new Pharmacopœia prefixed to this article, are conceived in a spirit, and executed with a taste and courtesy, most pleasingly contrasting with the one we have just dismissed from our consideration; and had such been the tone and character of all the notices of this work, our present task would have been spared us; for although we shall presently show that the writer of the critique in the *Medico-Chirurgical Review* has fallen into a few errors himself, whilst remarking on the short-comings of the College of Physicians, we gladly own that the boundary line of fair and manly criticism has never been overstepped in this review, which is evidently the production of an accomplished gentleman. We purposely confine ourselves to the remarks of this reviewer on the work of the London College, and neglect all the other cognate matter occurring in the article we speak of. We are happy to fight in the same ranks as this writer respecting the extended introduction of formulæ difficult to design, difficult to describe, and still more difficult, in unpractised hands, to execute—he preferring with us, and contrary to the opinion of the last critic, the insertion of medicines, readily procurable from manufacturing chemists, in *Materia Medica*, together with "certain directions or tests by which the dispenser may be enabled to ascertain the purity of the preparations he is compounding".

We notice a few omissions in "the list of substances contained in the list of *Materia Medica* of the Pharmacopœia for 1836, but removed from that of 1851", more to show that even carefully-written remarks, as these evidently are, may yet contain more positive and manifest errors than have been detected in the work remarked upon, and hence to justify, not only the propriety, but the advisability, of a gentle and courteous tone of criticism:

thus *Abietis resina* replaced by *Thus*, *Argentum* put in the appendix; *Aurantii oleum*, *Hyoscyami Semina*, and *Myristicæ Oleum à nucleis destillatum*, are omitted from the above-named list; whilst in the next, that of insertions, the Oil of *Copaiba*, and the Expressed concrete Oil of *Nutmeg*, are also wanting. The removals from the *Materia Medica* this reviewer generally approves of, and of the insertions says, "the additions made by the College to our remedies are very few indeed, but, for the most part, valuable", which we cite merely as an example of fair and just criticism. We distrust the use of sulphuric acid, the reagent here recommended to ascertain the genuineness of cod-liver oil, believing, as the reaction produced is precisely similar to that of *Pettenkofer's* test for the presence of bile, that a sophisticated oil, containing no "fish-liver oil" whatever, can be very easily produced, which shall develop the crimson tint on the addition of sulphuric acid. In his remarks upon the process for chloroform, which he considers "a good one", this reviewer states, "it is ordered to be purified by shaking with chloride of calcium for an hour, and then redistilling: sulphuric acid is generally employed for this process, and by some considered necessary;"—but this sulphuric acid process of *Dr. W. Gregory's* has been known for more than a twelvemonth to be a most unfit one for the purpose, this acid imparting a tendency to the loosely combined elements of chloroform to gradually rearrange themselves, and to form new compounds; much chlorine being liberated, and the liquid thus rendered not simply unfit, but terribly dangerous as an anæsthetic agent, so that the College have most wisely avoided the use of this acid, and substituted chloride of calcium in its stead." We might adduce other instances in which this writer has tripped a little, but these are for the most part trivial, and all harmless mistakes. But we must notice a remark on *ceratum sabinae* (*P.L.* 1836), as affording us not "exquisite", but some little, amusement, which is spoken of as being "now elevated to the rank of an unguent". We are curious to inspect the table of precedence of medicines. This review, so far as regards the *London Pharmacopœia*, closes with some pertinent observations on the subject of a National Pharmacopœia, and we cannot better close our remarks than by recommending them to the careful study of the critic of the *Monthly Journal of Medicine* as manifesting the general care and spirit with which a critique on a work proceeding from high authority should be written.

The review included in the learned but somewhat laboured sketch of the *History of Pharmacopœias* already alluded to, occurring in the October number of the *Edinburgh Medical and Surgical Journal*, is executed in the same spirit of judicious and dignified criticism as that of its contemporary just noticed; but from some involved statements and occasional carelessnesses, and even errors, it is not altogether free. Thus, in the list of "new articles admitted in the Pharmacopœia of 1851", more than forty out of the fifty-six cited were to be found in that of 1836; true, we are afterwards told that the list alluded to *Materia Medica*, and then that "it must not be imagined" that these "new articles are all newly received articles"; and at the end of half a page of explanatory letter-press, that it "cannot be presented as exhibiting an exact list of new articles only, it presents those articles which the College think ought to be (*i.e.* have placed) in the list of *materia medica*." Now we submit to this writer, that had the heading been, New articles occurring in the *Materia Medica* of the Pharmacopœia of 1851, this lengthy and involved explanation of what really is meant would have been avoided. The second list is open to similar objections, but to a far less extent; *curcuma*, *lacmus*, *lauri baccæ*, *ruta*, etc., being admitted in the present Pharmacopœia, whilst for diluted hydrocyanic and phosphoric acids formulæ are still given. We will instance a few more of these slips, and then proceed with our remarks:—thus *galla* is ranked with "the articles actually new"; "*mentha pulegii* is expelled, whilst the *aquæ menthæ pulegii* is retained", neither of

which statements is exactly correct, these occurring simply as pulegium and aqua pulegii. The remark, that "to use only mustard flour with the vinegar makes a more efficient sinapism, at a rate not more expensive" than the mustard, linseed-meal, and water ordered by the College—with regard to the economy we shall not trouble ourselves, but we agree with the *Medical Times* "that the vinegar is judiciously ordered to be left out".

This review is usefully and carefully executed; and we are particularly pleased with the modesty and good sense of many of its remarks, with one of which we cannot do better than close our own, heartily agreeing as we do with its quiet wisdom. "We feel that a work coming from such a body (the London College), is one neither for praise nor for censure. Whoever offers commendation should consider well what his praise is worth, and to whom he offers it. It may be that the favour is conferred upon the individual offering, not upon the body receiving. This is a position in which no prudent person willingly places himself. Whoever censures should consider not only what he is censuring, but whether he or any other person could have done the same duty as well. The points blamed may involve mere differences of opinion, and for these no one ought to pronounce a strong judgment."

MAGNETOID CURRENTS; THEIR FORCES AND DIRECTIONS: WITH A DESCRIPTION OF THE MAGNETOSCOPE: A SERIES OF EXPERIMENTS. By J. O. N. RUTTER, F.R.A.S., to which is subjoined a letter from WILLIAM KING, Esq., M.D., Cantab., 8vo, pp. 47. London: 1851.

The fame of this production long preceded its advent; and some foretaste of its contents has already been given to the readers of various medical and literary journals. We have carefully read this pamphlet, and we have likewise perused the remarks, lectures, and letters which have appeared on the described phenomena, by men of the most opposite modes of thinking and acting:—by DRs. QUIN and MADDEN, homœopathic practitioners, and by DRs. KING and COWAN, physicians recognised by the profession. These gentlemen, along with MR. RUTTER, witnessed the very same experiments: but DRs. KING and QUIN were awe-struck with the phenomena exhibited by the instrument; whereas DR. MADDEN, after three months of credulity, discovered fallacies; and from the first, DR. COWAN was an entire disbeliever in any "Magnetoid Currents" being indicated. On one side or the other, therefore, there must either be deception, delirium, or an incapacity to discriminate between fanciful folly and physical demonstration.

The statements put forth by Mr. Rutter are sufficiently simple, and may be regarded as an amplification of some amusing feats of dexterity which can be acquired by a study of MAYO'S *Truths contained in Popular Superstitions* (Edinburgh, Blackwood, 1851); but as this may be considered as an unfair estimate of Mr. Rutter's experiments, it is necessary to allow him to speak for himself.¹ He says:—

"In the month of March of the present year (1851), my attention was directed towards some curious experiments, an account of which had then been only very recently published. Soon afterwards, the account referred to came into my hands. Following its directions, I tried some of the experiments, and with complete success; and, notwithstanding the numerous doubts and vast amount of unbelief which prevailed respecting them, I soon perceived that they were perfectly genuine. Subsequent investigations have confirmed these views. The phenomena I shall by-and-by describe are entitled to take their place along-side of any of the facts in physical science.

¹ Mr. Rutter is manager of the Brighton gas manufactory. He is not known as a scientific man; nor is he a member of the medical profession.

"Is it asked—How were these experiments performed? and what were the results presented by them? Take the following as examples.

"1. If a gold ring, suspended from a piece of silk or cotton thread, say about eight or ten inches long, be held steadily between the thumb and forefinger of the right hand, about half an inch above the bowl of a silver (table) spoon, with most persons the ring will soon show signs of motion, and, in a few minutes, it will rotate from left to right, that is, in the direction of the hands of a clock.

"2. If the operator be a male, and his left hand be touched by either hand of a female, the ring will immediately become unsteady in its movements, and, after a little time, rotate in the contrary direction, *i.e.*, from right to left.

"3. Tie a loop at the end of the thread, and suspend the ring on the first (nail) joint of the thumb. It will now oscillate backwards and forwards like a pendulum, and in the direction towards which the thumb points.

"4. Hold the hand in the same direction as before, suspending the ring on the first (nail) joint of the forefinger. It will again oscillate, but its plan of oscillation will be at right angles with that caused by the thumb, that is, across the line of direction in which the finger points. * * * *

"5. If a shilling be suspended by a piece of thread, and held between the thumb and finger, inside a glass tumbler, the coin will oscillate like a pendulum. The exercise of a little skill on the part of the operator will make it strike against the side of the glass any number of times that may be required to agree with the hour of the day or night. The oscillation of the shilling is a true physical fact, and must not be mixed up with the caution and contrivance for making it strike the hour." (pp. 1, 2, 3.)

Perhaps it may have occurred to the reader, that the *caution and contrivance* so coyly referred to, and the twisted nature of the silk thread, explain all that is above described: but if he still considers the phenomena as the results of "magnetoid currents", and not of skilful manipulation, let him weigh what Mr. Rutter so innocently unfolds, regarding *command of the hand*, and *the deficient power of the left hand*. He says:

"A little practice gives great command of the hand. Many persons, who are at first obliged to support the arm by leaning the elbow on the table, in a few days dispense with all such aid, holding the arm in the proper position without experiencing the least sensation of fatigue. A careful operator, with a steady hand, can always perform the experiments to his (or her) own satisfaction. There is a consciousness that the motions are involuntary, *i.e.*, perfectly independent of the hand, as regards that direction. It is not so easy to satisfy an observer that the motions are not produced solely by the hand. This is more especially the case when it happens that by the same means the person looking on is not able to produce similar motions, and thus realise the same results. Other conditions being the same, each hand of both sexes is capable of producing the same kind of motions. There is, however, *a deficiency of power in the left hand*." (pp. 8, 9.)

To give greater accuracy to his observations, Mr. Rutter constructed an instrument which he terms a Magnetoscope, and which he describes and figures at p. 10. It consists of a platform, from which arises a pillar; both are of well-seasoned Spanish mahogany; from the pillar proceeds, transversely, a delicate brass limb, which terminates in a forceps, in which a single thread of the finest silk is grasped. At the end of this thread is suspended, over a graduated disc, a piece of sealing wax. "On the disc is placed a piece of plate glass, about $4\frac{1}{2}$ inches in diameter, with its centre immediately under, and about half an inch below, the sealing wax. To protect the latter from currents of air in the room, and from the breath of observers of the experiments, it is advisable to surround it by a glass, say $3\frac{1}{2}$ inches in diameter, and 10 or 12 inches in height." The feats which this instrument performs appear at a first perusal to be much more wonderful than those

already quoted. A few specimens are subjoined, as fair samples of the "magnetoid currents" as indicated by the Magnetoscope.

"If a female with her forefinger point at the head of the operator, say at the distance of two or three inches, the result will be the same (reversed rotation) as if she had touched his hand. If a male point with his finger in the same manner, the result will be diagonal oscillation. * * * A hair from the head of a female, laid on the hand of the operator—reverse rotation. From the head of a male—direct rotation. Similar characteristic results are produced by a handkerchief, which has been carried about the person by either sex respectively. A letter which has been kept separate from others (folded in its own envelope), although written several weeks previously, if laid open upon the hand of the operator, will indicate the sex of the writer—that written by a female, causing reverse rotation; that by a male, producing no change." (pp. 18-19.)

One more example of Mr. Rutter's philosophy must be given, as it explains the raptures with which the homœopathists petted and praised him: till all at once Dr. Madden ceased his congratulations, withdrew from the "magnetoid" party, and frankly proclaimed that he had allowed himself to be deceived. Mr. Rutter says:—

"At an early period in these investigations, I had proved the effects of very small quantities of salt, sulphur, and some other substances; and I had also noticed the changes in the directions of the magnetoid currents produced by certain kinds of medicine for several hours after they had been administered. On mentioning this to an homœopathic physician, we immediately tried if any of the homœopathic medicines (globules) would influence the instrument. The experiments were successful; demonstrating the physical effects of certain substances, in quantities which are said to be so exceedingly small as to be far beyond the reach of any known methods of chemical analysis."

Yes, Mr. Rutter; "far beyond the reach of any known method of chemical analysis"—and you might have added, *very far beyond the capacity of the human mind to conceive*. The following attempt to give the arithmetic of homœopathic doses is worthy of Mr. Rutter's attention.

Hahnemann's dose of chamomile is two quadrillionths of a grain. (*Alex. Wood*.)

Estimated population of the earth.	Doses of 2 quadrillionths.	Doses for each person.
2,500,000,000)	500000,000000,000000	(200,000,000.

Twenty-two to twenty-three globules, placed in line, measure one inch: thus, $22+22+22=10648$ per cubic inch; and $10648+1728=18,399,764$, say 20,000000=one cubic foot.

Now, globules in one cubic foot.	Total number of globules.	Forty feet per ton.
20,000,000)	500000,000000,000000	(Give 25000,000000=625,000000 tons.

Six hundred and twenty-five millions of tons is a large quantity to be equally impregnated by *one grain* of chamomile, or of anything else!

DR. QUIN's testimony in favour of Mr. Rutter's instrument is thus warmly and unhesitatingly given.

"I have witnessed several hundred experiments with Mr. Rutter's instrument, and I have never found it vary once; the same cause repeated, invariably produces the same effect. Try the instrument as you will, it never errs; it has all the certainty of a mathematical equation."—Renshaw's *Homœopathic Times*.

And in the peroration to a lecture delivered at the Hahnemann Hospital, the same gentleman thus exults:—"I believe, gentlemen, I have now brought before you the leading points of the truly beautiful experiments of Mr. Rutter, and I feel confident that you will agree with me, that science has made a gigantic stride by the philosophical instrument and important discovery of that gentleman; and that homœopathic practitioners especially are greatly indebted to him for having *proved* the physical action of our remedies in in-

infinitesimal quantities upon the human body ; and that you will join with me heartily in doing honour to him for the great impetus he will be the means of giving to our cause. The only reason for sorrow is, that our revered master, Hahnemann, is not alive to witness this triumphant proof of his own great discoveries." Renshaw's *Homœopathic Times*.

DR. KING, a physician at Brighton, who, we believe, enjoys the esteem of his profession, is not behind Dr. QUIN in the earnestness of his testimony. He thus magniloquently addresses Mr. Rutter :—

"I may be thought too fanciful in the view I take of your beautiful, and, as I think, sublime discovery, but no reflecting mind will deny, that we stand in need of some new principle or truth, to enable us to turn to full account those which we have already received. * * * When I first saw your machine prove the polarity of a decillionth of a grain of silex, and when I first saw it respond to the billionth of a grain of quinine, I was seized with the same kind of awe as when I first studied the resolution of the nebulae, and as when I first saw the globules of blood, and the filaments of the nerves through the microscope." (pp. 46, 47.)

The perusal of such a passage from the pen of such a man as Dr. King, cannot fail to excite the most melancholy and painful feelings in all truth-seeking minds. Here we find idle fancies accepted as facts—the gyrations of a toy responsive to the hand of a clever manipulator, proclaimed as *sublime* demonstrations of wonderful and hitherto undreamed of physical laws !

DR. MADDEN once was as ardent a believer as Mr. Rutter and Dr. King ; but he has had the candour publicly to retract his faith ; and in doing so, he has fairly burst the bubble. We give an extract from his paper :—

"It is no pleasant duty which I have now to perform—viz., to make known the fact that my recent experiments *have detected a most serious source of fallacy in all the previous ones, and go far to show that it will be of little or no real value to us as demonstrating the action of homœopathic remedies.* * * * I am so strongly impressed with the fact, that the mere possibility of producing these movements voluntarily, *reduced the whole series of experiments from the high standing of a demonstration down to the much less satisfactory one of individual testimony ;* and I knew well that unconscious muscular movements occur in us every day. Mr. Rutter has fully acknowledged the fact, that *unless you pay attention to the pendulum, no definite movements take place.* The idea occurred to me that *possibly* this attention to the pendulum drew off my attention from my own body, and that I *might* accordingly make unconscious muscular movements capable of influencing the machine. I determined, therefore, to watch the pendulum, and attend to my own sensations at the same time. I found, to my dismay, that when I resolutely determined not to move my body in the slightest degree, *no motion of the pendulum took place when I held the instrument in the usual way.*"

DR. COWAN, of Reading, saw Mr. Rutter's experiments, repeated them, and became fully satisfied that there was nothing in them, "more than the combined effects of muscular unsteadiness, and a non-suspected volition". He suggested to Mr. Rutter the propriety of his performing his experiments with the eyes bandaged. Mr. Rutter replied,—"**THAT HE WAS AWARE THAT UNDER SUCH CIRCUMSTANCES THEY WOULD FAIL.**" Dr. Cowan adds in his letter to the *Lancet*:—"I promised to withhold all farther criticism, if, in his threatened book, he would preface every chapter by this admission."

The apology which we offer to our readers for occupying nearly four pages with an exposure of so wildly nonsensical a pamphlet as that of Mr. Rutter, is the easy faith with which the public have gulped his follies, and the adroitness with which the homœopathic quacks have with them tried to buoy up their sinking ship. We may just add, that had Mr. Rutter been sufficiently ingenious to use the preface suggested by Dr. Cowan, our present task might have been spared.

THOUGHTS FOR THE MEDICAL STUDENT: an Introductory Address delivered at King's College, London, October 1, 1851, on occasion of the Opening of the Thirteenth Session of the Medical Department. By WILLIAM BOWMAN, F.R.S., F.R.C.S., Professor of Physiology in the College, etc.

In nothing, perhaps, does the present age more differ from those that have preceded it, than in a substitution of definite experience and exact reasoning for the vain imaginings and unsubstantial theories which, in former times, were made use of to account for the actions of health and of disease. Together with this healthy condition of the reasoning powers, has arisen an attempt to raise the aim and object of the cultivators of medical science to a point worthy of their high profession, and it is not without much satisfaction that we notice, that those who have made the greatest advancement in the one, have also been the most eminently successful in the other. These general observations appear to find their place with peculiar propriety in a notice of the Introductory Address of PROFESSOR BOWMAN, whose European reputation as a physiologist may fairly be set against the high standard which he proposes to us for the conduct of the practical surgeon, and of which his own career will, we believe, furnish as good an illustration as the written pages of his Address.

"Of the countless occupations", observes Professor Bowman, "in which mankind are engaged, all may be regarded as in themselves honourable, which, while they do no violence to the cultivated moral sense, are intended to supply a legitimate human want, or conduce in any degree to the convenience, the happiness, or the dignity of social life. However humble and conventionally debased, there is no such pursuit that does not admit of being followed in a spirit which shall sanctify it. But I desire to speak now rather of *the influences of callings and professions on those who exercise them*; and here it needs scarcely a glance to see how widely they differ, as regards their tendency to draw forth the higher qualities of man, to develop his intellectual and moral faculties, to clear his mind of prejudice and error, to enlarge his views of nature and providence, to awaken kindly sympathies in his breast, and thus to elevate, while they soften and humanise him.

"Among them, indeed, are several that have close and intimate relations to physical science, and lead the mind to grand conceptions of natural laws, and train it to exact reasoning; while by stimulating the inventive and constructive faculties, they are gradually subjugating to the benefit and use of man the most subtle and most tremendous forces of nature, and establishing an empire over the material world, which our age cannot help contemplating with something of awe, under a feeling that it may be ushering in a new and unexampled phase in the development of our race. The statesman, too, the legislator, and the soldier, are called on to consider problems of vast importance to mankind, and to enact great and stirring parts, where there is room for the display of those qualities which men term *great*. But of all these occupations, it may be said with more or less truth, that they either do not directly interest him who follows them in the subject of human happiness, or they regard mankind in the aggregate, and do not necessarily bring him into close and personal contact, and not therefore into sympathy, with individuals.

But it is the distinguishing characteristic of the *medical* profession (shared by but one other), and a fertile source of its special privileges, as well as of some of its peculiar trials, that it does bring us into this intimate and individual contact with our fellow men; that it lays open to us their private circumstances, their personal infirmities and griefs, their hopes and fears, making us acquainted with human nature under aspects and forms which even the ministers of religion have not always the opportunity of witnessing, and which are fraught with the most salutary lessons for those who are willing to learn wisdom from the dear-bought experience of others. It conducts us, I say, into the very presence of the souls of our fellow creatures, who expose to us their cherished and most secret thoughts, in willing trust

that we shall employ the knowledge thus committed to us for the *private* and *individual* object of restoring them to health. We are made the depository of personal and family histories, that we may have the means of interposing the friendly aid of our skill and experience for the removal of diseases, or, at least, the relief of suffering and the prolongation of life. These great and pressing interests thus entrusted to our keeping, not in the mass, but with all their vivid details, and for so sacred a purpose, must excite in every well-constituted mind, a warm solicitude for the welfare of our patients, and call forth the best feelings of the heart." (pp. 6-8.)

With regard to the profession itself, and the spirit in which it should be studied, Professor Bowman remarks, "that if a medical man takes a high view of his pursuit, and acts conformably to his standard, it will introduce him to the society of the most gifted minds, will secure to him the esteem and respect of the best and noblest natures, with the affectionate gratitude of all who can appreciate the personal and priceless benefits it enables him to dispense around him. . . . With patient industry and singleness of purpose it adopts knowledge from every quarter, and casts aside nothing as worthless that comes to it on reasonable testimony. It is not conceited, but candid and open. It may fall into the errors that are but incident to human thought, and the usual accompaniments of periods of great mental progress, but it is always willing to be guided to the truth, being animated above all things by a love of truth. It is ready to exclaim with Locke: 'It is *truth* alone I seek, and *that* will always be welcome to me, when or from whencesoever it comes.' It knows indeed that it is ignorant of the whole truth, that in all, even the most perfect and advanced of human sciences, there is much to mark the poverty and weakness of our faculties, and therefore it vaunteth not its powers or its conquests, but is tranquil, patient, humble, modest. If it discovers a new and useful truth, fraught with advantage to mankind, mindful of its great object, and true to that object, it promptly throws it into the common store, 'Glad to distribute, willing to communicate' it."

There are many other points of Professor Bowman's address which we would gladly have noticed, did our limits permit. We must, however, content ourselves with drawing the attention of those who read the pamphlet, in an especial manner to the observations concerning the conduct of the students in the dissecting-room and in the hospital; observations which we are persuaded it should become the endeavour of professors as well as of students practically to carry out in their intercourse with the dead and dying.

HISTORY OF EPIDEMIC PESTILENCES FROM THE EARLIEST AGES, 1495 Years before the Birth of our Saviour to 1848: with Researches into their Nature, Causes, and Prophylaxis. By EDWARD BASCOMBE, M.D. 8vo. pp. 250. London: 1851.

This is not only as readable a book as could be written upon such a subject, but it is often lively and interesting. It is, we may add, full of valuable matter. Its utility, however, would have been immensely enhanced by a *copious index*, so as to enable the reader easily to find out when several particular diseases have been epidemic, and when and where they have proved most fatal. The chronological arrangement, objectionable from the repetitions it involves, is still more to be deprecated when we have no index, such as that which we have pointed out to be required. In a second edition, we would urge Dr. Bascome to give references to his sources of information, so as to make his volume one of authority and reference. We have noted several omissions and several faults; for example, the remarkable remittent or "relapsing" yellow fever which prevailed in Scotland in 1843-44, is not mentioned, which is rather remarkable, considering the numerous writings

to which it has given origin, such as Dr. Cormack's work during the prevalence of the epidemic, those of Dr. H. Douglas, Wardell, and others, after its cessation, as well as elaborate reviews of works on fever, which have more recently appeared, and in which the fever we refer to, occupies a large share of attention. Dr. Bascome notices the Scottish epidemic fever of 1847.

REPORT OF THE PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF LONDON.
Fifth Session, 1850-51. pp. 196. London: 1851.

When the establishment of the Pathological Society was first proposed in the year 1846, it was objected in some quarters that the metropolitan medical societies were already too numerous, and consequently that the new society could only receive support by withdrawing from that previously accorded to others. We ourselves are much disposed to believe that the former objection is well founded, and that some of the existing bodies might with advantage follow the example of the London and Westminster Medical Societies, and unite their strength; but we do not see any proof that notwithstanding the success which has attended the Pathological Society, it has lessened the support of the others. Of the large number of communications brought before the society during the five sessions which have elapsed, few would probably have been published had it not been through its agency, and thus the profession would have been deprived of a large amount of valuable and interesting matter. We regard the publication of notices, in a more or less extended form, of all the contributions, as one of the best features of the society; for it may safely be concluded, that while many are of great importance, few, if any of them, are unworthy of some record; and it entirely avoids the difficulty experienced in other societies, when of the memoirs presented, a small proportion only are published in the transactions.

We think, however, that to give the Reports their full value, some guarantee is required that the specimens described are really what they purport to be. To the former reports of the society there was appended a notice, stating that the authors were alone responsible for the published accounts; and though in the present report this notice no longer appears, and though, in some instances, the specimens presented were subsequently examined and reported upon by other members of the society, we believe that the published descriptions are, with slight verbal alterations, most generally those furnished by the exhibitors, and that the specimens are not systematically subjected to investigation on the part of the council. This, we think, decidedly objectionable, and we would suggest whether it would not be well to submit all specimens, of the nature of which there is any doubt, either to a permanent committee, or to one or two members specially selected to examine them, and fitted, by their previous studies, to give a satisfactory report. The adoption of this plan could not be objected to by the exhibitors, for, in so wide a subject, no one can be expected to possess equal acquaintance with all departments, and there could, therefore, be no reflection, either upon their knowledge or powers of observation, should the report of the committee not wholly agree with the description previously given, while when the account was confirmed, the importance of the observation would be much greater. We would also remark, that it would conduce to the usefulness of the society, that the specimens selected for exhibition should, as far as possible, be such as throw light on pathology, rather than mere objects of interest, as examples of rare morbid structure.

We do not by these remarks wish to disparage the society; for though we think it open to improvement, we yet regard it as having done much good service to the progress of the branch of medical science, for the prosecution of which it was established.

The present Report is the best which has yet emanated from the society. The number of the communications may be judged of when it is stated, that

throughout a volume of nearly two hundred pages, few of the articles exceed one or two pages in length. It is well illustrated by several wood-cuts and lithographs.

Among the communications, we may refer to a case of softening of the brain from coagulation of the blood in the cerebral arteries, by Dr. Bence Jones ; one of intercranial aneurism, exhibited by Dr. Roe, and reported upon by Dr. Brinton ; an account of some curious bodies from the choroid plexus, by Dr. Quain ; a case of congenital absence of the pericardium, by Dr. Baly ; one of rupture of the aortic valves during violent muscular efforts, by Dr. Peacock ; a case of congenital malformation of the œsophagus, by Dr. Ayres ; and communications by Mr. Avery, Mr. Gay, Dr. Little, and Dr. Hare, on intestinal obstruction ; by Mr. H. C. Johnson, Mr. Pollock, and Mr. Solly, on diseases of the urino-genital organs ; by Mr. Hawkins, Mr. Arnott, Mr. Stanley, Mr. Prescott Hewitt, Mr. Canton, etc., on diseases of the bones ; by Mr. Toynbee, on diseases of the ear ; and by Dr. West, on inversion of the uterus. We refer to these communications only as showing the varied contents of the report ; but we can safely commend the whole to the notice of the profession, satisfied that it will be found to contain much information of very great value

NERVOUS AFFECTIONS CONNECTED WITH DYSPEPSIA. By WILLIAM BAYES, M.D. pp. 88. London: 1851.

This is a superficial work addressed to the public, for their benefit ; and also for the good of the author, as is stated by him. Several distasteful things we have noticed ; *e. g.* the odd, and almost irreverent, juxtaposition of soda-water and true religion on the last page ! Religion and mental discipline are of paramount importance in the treatment of many chronic diseases ; and the author is undoubtedly correct when he says :—" We may characterise the general effects of real religion as balmy, soothing, and restorative. Fanaticism, and false religious feeling, exert in every way an opposite and prejudicial power, both upon health, and upon the removal or alleviation of disease." It is not to the statement we object, but to the constrained mode of its introduction, immediately after a notice of effervescent mixtures and soda-water !

SPEECH AT THE MEDICO-CHIRURGICAL SOCIETY (OF EDINBURGH) RELATIVE TO HOMŒOPATHY : with Notes on the Peculiar Theological Opinions of some of the Disciples of Hahnemann. By J. Y. SIMPSON, M.D., President of the Royal College of Physicians, and Professor of Midwifery in the University of Edinburgh. 8vo. pp. 27. Edinburgh: 1851.

At the first ordinary meeting of the Edinburgh Medico-Chirurgical Society for the current session, it was moved by MR. SYME, seconded by DR. SIMPSON, and unanimously agreed :—" *That the public profession of homœopathy shall be held to disqualify for being admitted or remaining a member of the Medico-Chirurgical Society of Edinburgh.*" The pamphlet before us contains the very valuable address delivered by Dr. Simpson upon that occasion ; along with some excellent notes, which he has subsequently added. The exposure of Dr. Henderson is complete and crushing ; and the impious theology of the globulists is well handled.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

PRACTICE OF MEDICINE AND PATHOLOGY.

LUSANNA ON THE INTERNAL USE OF ATROPINE.

ATROPINE, the alkaloid of the *Atropa Belladonna*, has not, as far as we are aware, been employed in England as an internal medicine : its highly poisonous properties having deterred medical men from administering it in this way. DR. LUSANNA, however, in Italy, has thrown off the restraint imposed by the fear of poisoning his patients, and has given the drug to them ; the results we shall give nearly in his own words. He may have done good service to medicine by his bold act : but we would remind our English readers, that the countrymen of the fair ladies from whom *belladonna* is said to have received its name, may possibly be more tolerant of the action of the plant or of atropine than the natives of Great Britain.

ABRIDGEMENT OF DR. LUSANNA'S MEMOIR. For several months, I have employed, in hospital as well as private practice, atropine, in the treatment of certain nervous affections. It has been used by several English, Dutch, and German surgeons, as an external application in affections of the eye ; and MM. Bouchardat and Stuart-Cooper administered it externally in some cases of chorea and other nervous affections, and internally in a case of aphonia, and in one case of cataleptiform convulsions. The latter observers state atropine to be an extremely active substance, which might produce the most severe toxical accidents in doses of 1-10th of a grain. I commenced with 1-30th of a grain in every three or four hours. In the first patient, I could not go beyond 1-10th of a grain : but in others, I have been able to give as much as one-third of a grain five times a day. It was only the first doses which produced the most decided narcotic effects. After this, and even when the dose was increased, these effects were not more pronounced, while the therapeutic action continued.

I will now relate a few of my most important cases.

CASE I. EPILEPSY OF FOURTEEN YEARS' DURATION—ATROPINE GIVEN INTERNALLY—GREAT IMPROVEMENT. The patient was a woman, 35 years old, of nervous temperament, leading a religious and ascetic life. After severe mental excitement, at the age of 19 or 20, she had epileptic attacks ; and these had continued at times for about fourteen years. They had latterly occurred three or four times a day for five or six days in succession. Her aspect was imbecile, and she had hysterical and neuralgic symptoms. On March 23, 1850, I dissolved half a grain of atropine in a little alcohol, and directed it to be taken by drops in water during the next forty-eight hours. In twenty-four hours, the sight was affected, but the pupil was not dilated. On the evening of the 25th, when she had finished the half grain, she was unable to recognise individuals. On this day there had been more threatenings of an epileptic attack, confined, however, to some convulsive tremblings, which rapidly ceased. On March 26, half a grain was again prescribed, to be finished on the 29th. The results were, disturbed vision, unsteady gait, dryness in the tongue and throat, buzzings in the ears, loss of memory, and incoherence in speech. The hysterical headache, and pain which she had felt for some years in the right hypochondrium, had left her. The medicine was interrupted : on the 30th and 31st, the narcotic effects were gradually dissipated : the pupil only oscillated slightly under the influence of light. On April 2, the atropine was repeated in the dose of half a grain for two days : the same phenomena occurred. On the 8th, the dose was increased to one

grain : the results were more marked, and there was a little fever, for which an ounce of cream of tartar was ordered. On the 16th, a grain and a half was ordered. The patient kept her bed, in consequence of vertigo, unsteady gait, and disturbance of ideas and of vision. The iris was fixed ; there was dysphagia, and dryness of the throat and mouth. She took half a scruple altogether ; and, from the 17th to 22nd April, she took three grains in five days. Two days after, the pupil began to dilate ; and, on the third day, the iris had disappeared. When the medicine had been left off, the iris contracted gradually and by successive oscillations : the hypochondric and neuralgic pains did not return.¹

On June 18th, there had been no epileptic fits for three months ; but the patient had had some hysterical and neuralgic symptoms. This patient still bore on her countenance the peculiar imprint of epilepsy. After seven and a half months of uninterrupted health, she had fresh attacks, in consequence of the threats of one of her neighbours.

CASE II. NEURALGIA OF THE MAXILLARY BRANCHES OF THE FIFTH PAIR OF NERVES ON THE RIGHT SIDE—ENDERMIC APPLICATION OF ATROPINE—RAPID CURE. The patient was a woman, aged 35. A blister was applied beneath the right ear, and the surface dressed with an ointment containing one-sixth of a grain of atropine twice daily. In two days, the cure was almost complete ; but, as there were still some symptoms of pain, the quantity was doubled, and the pains completely ceased.

CASE III. EPILEPSY SINCE INFANCY—INTERNAL ADMINISTRATION OF ATROPINE—GREAT IMPROVEMENT. On April 18th, 1850, a man, 47 years of age, was brought into hospital in an apoplectiform state. He had been epileptic from childhood ; he had, at least three times a month, and sometimes from three to five times in a day, violent attacks, with general convulsions and loss of consciousness. The disease, and his habitual drunkenness, had left deep traces in his external aspect and moral condition. Two days before, he had three or four epileptic fits in the day, after which he had fallen into an apoplectiform state, which still continued, and from which he was with much difficulty roused by bleeding and purgatives.

This was certainly not a favourable case for the administration of atropine : but I resolved to employ it. On May 6, I prescribed half a grain in sixty drops of alcohol, to be taken by drops in two days. In the evening, the pupil was much dilated, and the iris appeared only as a small black circle. The next morning, the pupil was less dilated, but immoveable : the patient was buried in the bed-clothes, but, by calling to and shaking him, he was roused to sit up in the bed. He was a little more reserved than usual. In the evening, the medicine was finished ; the patient had eaten very little ; he kept himself up with difficulty, and walked with a sort of convulsive agitation. He was loquacious, delirious, and incoherent : there was no fever. The atropine was repeated. On the night of May 8th, he had hallucinations and pleasing delirium. The medicine was suspended : but he had delirium and visions all the day. The next morning he had some appetite ; the pupil was reduced to two-thirds of its size. The medicine was repeated. On May 13, the dose of the medicine was increased to a grain for two days. It was now better borne ; and, except disturbance of vision, and dryness of the tongue and throat, there was no morbid symptoms. On the 18th, the dose was raised to a grain and a half for two days, on the 25th, to two grains ; on the 31st, to two grains and a half ; on June 6th, to three grains. In short, from May 6th to June 13th, the patient consumed thirty-four grains of atropine. In the latter days, the delirium had increased, and was almost continuous. Up to this date,—that is, for two months,—there had been no epileptic fits, when, on the 16th June, while the patient was in the court, he tottered and fell ; there were no cries, convulsions, nor foaming at the mouth : the limbs were quite flexible. In less than a quarter of an hour consciousness had returned. This was a very mild attack compared with those which had preceded : I however repeated the atropine on June 21, in

the dose of two grains for two days. The appetite was immediately lost. The pupil was fixed ; there was mild delirium, and semiparalytic trembling of the extremities. On the 26th and 30th, the same dose was repeated. The trembling was calmed : there was a little appetite and diarrhoea. On the night of the 30th, the patient, having perhaps taken rather too large a dose, was delirious in the night, and passed his urine and fæces involuntarily. On July 2, the atropine was again given, in the dose of a grain for two days, dissolved in acetic acid and distilled water. On the 4th, two grains were given ; on the 6th and 8th, two and a half grains. On the 10th, the medicine was again suspended. On August 24th, there had been no fresh epileptic attack. On September 24, the patient, who had indulged in the use of strong liquors since he left the hospital, had a fit. The atropine was repeated ; and, on November 16, the attacks had not returned.

CASE IV. CHOREA WITH MANIA—INTERNAL ADMINISTRATION OF ATROPINE—RAPID CURE. A man, aged 40, a farmer, was seized, after maniacal symptoms, with choreic movements. I prescribed half a grain of atropine in sixty centigrammes of alcohol, to be taken in two days. The narcotic effects were slight, and the movements immediately became free and regular ; but the chorea re-appeared in two days. The patient took a grain of atropine on the 6th and 7th, and another on the 8th and 9th. The convulsive movements daily became less ; and, towards the middle of June, had entirely disappeared. But the mania continued.

CASE V. TERTIAN FEVER SUCCESSFULLY TREATED BY THE INTERNAL ADMINISTRATION OF ATROPINE. A young husbandman entered the hospital on July 25th, 1850, for an obstinate tertian fever, which had returned twice, after having been treated with disulphate of quinine. The fever had continued three weeks. On the 26th, after the attack, the patient commenced to take a mixture, consisting of half a grain of atropine dissolved in a little acetic acid and 250 grammes of distilled water. From the evening to the next day, the patient took about 1-24th of a grain of atropine. There was only weight in the head, dilatation of the iris, and dryness of the tongue and throat. In the evening, there was dilated pupil ; diplopia ; an appearance of mist round objects, which appeared four times their size. The patient could not rise, from unsteadiness of gait : there was dryness of the tongue and mouth ; the aspect was tranquil ; the pulse 55 ; the respiration 20 ; there was a little embarrassment in speech. On the morning of the 28th, the solution had been taken. The pupil was strongly dilated and immoveable ; the face and mind were tranquil ; there was loquacity ; the pulse was 55 ; there was heat of the tongue and throat. The attack came on two hours later. On the 30th, in the afternoon, there was a slight shivering of the limbs, the body preserving its normal heat : this was succeeded by general heat, with perspiration. These were the last traces of the disease. On April 18th, he had to be bled for some symptoms of cerebral congestion.

CASE VI. TERTIAN FEVER OF TWO MONTHS DURATION—PALUDAL CACHEXIA—ATROPINE GIVEN INTERNALLY—CURE. The patient was a female peasant, aged 39 years. On July 9th, after an attack, a grain of atropine was ordered to be dissolved in acetic acid and sixty grammes of water, to be taken by teaspoonfuls in two days. After 1-16th of a grain, there was disturbed vision, dry mouth, and trembling of the limbs. After the second spoonful, she had maniacal delirium, and sopor ; the pupil was dilated. The attack appeared on the 11th, three hours earlier than usual. The atropine was carefully repeated on the 12th ; the effects were much more easily borne. On the 13th, the fever again appeared. A purgative was now given, and some leeches applied to the anus, for gastro-hepatic symptoms. The paroxysms did not occur for five days. On August 2nd, half a grain of atropine was dissolved in a little acetic acid and eight ounces of water, and given in doses of three teaspoonfuls daily. The disease was immediately

arrested without any other treatment; and the patient left the hospital quite well on the 25th of August.

CASE VII. CHRONIC VINGELITIS—SEVERE PAINS—ATROPINE GIVEN INTERNALLY—RELIEF. A woman of seventy years had chronic disease of the spinal cord, paraplegia, anæsthesia of the whole body, except the head, and severe pains in the lower limbs. On May 31st, half a grain of atropine was ordered to be taken in forty-eight hours. The result was an immediate calm. The half grain was made to last a week; but there were well-marked physiological phenomena, and even delirium, which gradually ceased. On June 18th, the dose was repeated; the patient seemed more used to the medicine, and obtained very great relief. The dose was gradually raised to a quarter of a grain at a time. The latter dose produced an erythematous eruption of the skin, with elevation of its temperature.

CASE VIII. EPILEPSY DEPENDENT ON UTERINE DERANGEMENT—ATROPINE GIVEN INTERNALLY, WITHOUT SUCCESS. The patient was a girl, aged 22. She took twelve grains of atropine in five weeks, with some camphor. No therapeutic results followed, though the physiological effects were well marked.

MODE OF ADMINISTRATION. Until we have soluble salts of atropine, as acetate, nitrate, tartrate, etc., it can only be given dissolved in alcohol, in acetic acid, or some other mild acid. The solution, especially the alcoholic, has a taste resembling quinine; but it is feeble, and not disagreeable. Neither the tincture nor the acetic solution produce any disturbance of the digestive functions: the medicine is readily observed. Pills and powders are inadvisable, from the difficulty of exactly dividing the atropine, and the risk of its accumulating in the system. It is first given in doses of 1-30th of a grain, gradually increased, the effects being very carefully watched. The tolerance of the medicine is so great, that a quarter of a grain may at last be given every four hours. For external application in neuralgic affections, Dr. Lusanna applies from 1-14th to 1-6th of a grain, in a pomade, to a blistered surface.

PHYSIOLOGICAL EFFECTS. 1. *Dilatation and Immobility of the Pupil.* Between fourteen and twenty minutes after taking from 1-24th to 1-30th of a grain of atropine, the pupil is enormously dilated. If the patient be not examined until several doses have been taken, and the medicine has had time to take more effect on the nervous system, this phenomenon is not observed; but there is complete immobility in the iris, in its natural state of dilatation. If the use of the atropine be suspended, the dilatation is reproduced as its effects seem to go off. As the pupil recovers its mobility, it begins to contract by slight oscillations under the influence of a strong light, and to dilate in the shade. The dilatation of the pupil is the last phenomenon to disappear; it has been met with eight days and more after the suspension of the medicine; the return of the mobility indicates that the toxic effects are disappearing.

2. *Disturbance of Vision.* Objects at first seem to swim in a whitish vapour; their contour is not neatly defined; persons are not recognised; it is impossible to read or write. If the dose be increased, a thick dark shade is thrown over objects, and the sight may be even lost. Each fresh dose of atropine has a sudden and marked effect in diminishing vision; and the disturbance of sight disappears with equal rapidity. A day or two after the cessation of the medicine, there are no traces of this effect.

3. *Disturbance of the Intellect.* At first there is languor and slowness of intellect; the individual appears distracted and astonished; his ideas and answers are slow and without judgment. At a later period, the patient has vertigo and confusion of ideas, and is as if half-intoxicated. In one case, there was disturbed intellect and headache for a fortnight, when the other

symptoms had disappeared. But this was perhaps not due to the atropine; for it had appeared during his attacks of intermittent fever. The troubled intellect and vertigo was in no case accompanied by any sensation of weight in the head, such as accompanied cerebral hyperæmia.

4. *Hallucinations of Hearing.* These phenomena are more rare than those just mentioned. Whistling and hissing in the ears occurred in an epileptic female; another patient heard tinkling; and one woman, with disease of the spinal cord, had a continual buzzing. These noises very probably become hallucinations during delirium.

5. *Hallucinations of Vision.* These accompanying the impairment of sight, and are very variable. They consist of visions of well-known individuals, assuming strange and monstrous forms; of extraordinary and gigantic phantoms; of numerous black insects flying or creeping round the patient; the ground, and all on it, seems to turn round; objects are seen double, surrounded with a sort of cloud, or are only multiplied or enormously enlarged. In short, the hallucinations are of the ridiculous or frightful kind.

6. *Anæsthesia.* This effect is much more perceptible with regard to the pains which the patient may have suffered, than with regard to tactile impressions. These are preserved; except, however, there has been but little disposition on the part of the patient to allow himself to be influenced by painful tactile impressions. This is confirmatory of what some physiologists have written relative to the distinction between the sense of touch and the impression of pain.

7. *Dryness of the Mouth and Throat.* A very few days after the first doses of atropine have been taken, there is a sensation of extreme dryness in the mouth, tongue, and throat. This is a constant phenomenon, and seems purely nervous, as there is no real dryness; at a later period, however, the parts become dry. This effect seems to depend on diminution of the salivary secretion, and to especially correspond to semi-paralysis of the muscles of the pharynx. There is no trace of gastric irritation.

8. *Loss of Appetite.* Although the patient may have had a good appetite, he loses it, and at last is disgusted with food. There is no thirst. When the treatment is suspended, the appetite returns, sharper than ever, almost amounting to voracity.

9. *Embarrassment of Speech.* As the action of the atropine becomes more marked, there is more or less embarrassment of speech, consisting of difficulty, slowness, and uncertainty in the articulation of words. M. Bouchardat has also noticed this effect.

10. *Delirium and Stupor.* Delirium, alternating with or succeeded by stupor, is produced by one-tenth of a grain at the commencement of the treatment, by one-fourth of a grain at a later period, or by any sudden increase above the usual dose. The delirium is constantly gay and ridiculous; the patient forgets all that is around him, and his imagination is transported to distant and imaginary objects. In only one case was the delirium mournful. When these phenomena have reached a certain degree of intensity, they are very slow in disappearing. For several days after the medicine has been left off, there is confusion of intellect, and a certain incapacity of volition and thought.

11. *Dysphagia.* This is an unfailing result, if the use of atropine be continued for some time. After having experienced dryness of the mouth and throat, the patient finds that deglutition becomes gradually more difficult. In vain he puts the voluntary muscles of the neck into action: the constrictors of the pharynx remain almost immoveable.

12. *Redness of the Skin.* In one case, the skin, which was very fine and delicate, was coloured of a lively red a quarter of an hour after the atropine was taken. The patient was not delirious; the pulse in the arteries was large, but slower than usual. The redness was like that produced by the

sun, or rather like that which appears on the ears, hands, and face, on going from a cold place into a warm one. It followed each administration of the medicine, and lasted from half an hour to an hour. I have not met with it in any other case: but M. Bouchardat relates that, in one case, the cheeks of the patient became red after the external use of atropine.

13. *Torpor and Paralytic Tremblings.* When the dose is augmented, the lower limbs become heavy, lose their strength, and fail in supporting the body, or only become weak and tottering: the patient is obliged to remain in bed. From time to time there are transitory tremblings in individual muscles; but no cramps or spasmodic and painful contractions. Some voluntary control can still be exercised for a time: and, when this is lost, there are still subsultus or convulsions. The latter phenomena occur when a large dose has been early given, so as to rapidly bring about loss of volition and consciousness; the former, when the muscular irritability has been gradually diminished, by the doses having been gradually increased.

14. *Paralysis of the Sphincters of the Rectum and Bladder.* This manifests the highest degree to which the medicative action of atropine can attain. In one case, on two separate occasions, involuntary diarrhoea followed the administration of a grain and a half a day; and, on slightly increasing the dose, the fæces and urine passed involuntarily.

The functions of respiration, circulation, and calorification, seemed seldom or never affected by atropine.

I have never observed truly alarming results to arise from the use of atropine. However, as this has occurred to others, I think it right to say that I have, with M. Bouchardat, been led to regard wine as the best antidote. As often as I gave wine to the epileptic patient mentioned in Case III, the delirium was soon calmed; it also sometimes aided deglutition in this case. In Case VIII, also, the phenomena were evidently calmed under the use of wine.

Most of the physiological phenomena produced by atropine result from its action on the cerebro-spinal centres. In all probability, the encephalon first, and most directly, feels its influence; especially its parts corresponding to the senses of sight and hearing, to speech, and to thought. Then are affected the spinal system, the radiating muscles of the iris, the constrictors of the pharynx, the sphincters, and the tenuity and irritability of the general muscular system.

THERAPEUTIC EFFECTS. The cases which have hitherto seemed most favourable for the use of atropine are centric or cerebral epilepsy, neuralgia, chorea, and intermittent fevers. Illustrations of these have already been given. In eccentric, reflex, or symptomatic epilepsy, resulting from disease of some distant organ, atropine has failed. (See Case VIII.) [*L'Union Médicale*, July 1, 3, and 5, 1851, as quoted from the *Gazetta Medica Lombarda*.]

TREATMENT OF AGUE: ESPECIALLY ON THE USE OF PERSEQUINIRATE OF IRON.

Mr. WILLIAM KERR (writing from Hamilton, Canada West) communicates some important practical observations on the treatment of the different forms of ague, to the *Edinburgh Monthly Journal* for October 1851. His paper is chiefly interesting from the great value which he attaches to the persequinirate of iron, for the preparation of which he recommends the following formula:—"Take of iron wire, that known by the name of number 17, one ounce; nitric acid, three fluid ounces; water, one hundred and seventeen fluid ounces; mix the nitric acid with fifteen ounces of water in an earthenware or glass vessel; put into it the iron wire, broken into several pieces, and so twisted as to extend into every portion of the liquid (on this the complete saturation of the acid depends); place the vessel in a mode-

rately warm situation, and in eight to twelve hours the solution will be completed, when the liquid is to be poured off the remainder of the wire, which ought always to be in slight excess. The residue of the water is now to be added, so as to increase the solution to one hundred and twenty ounces.

"By using a large quantity of water, muriatic acid is not required. A glass receiver over the vessel in which the solution goes on, with its lower end immersed in water, will cause the absorption of the fumes of nitrous acid, and allow the process to be carried on within doors. In this country, in the open air, the cold of winter would prevent the formation of persesquinitrate, and the iron would be dissolved in the form of protonitrate."

A number of interesting cases are detailed. The following is a summary of the treatment recommended:—"If the patient has paroxysms of ague, ten grains of sulphate of quinine, divided either into two or three portions, ought to be given before the expected accession of the paroxysm,—say one portion the preceding night, and two, with two hours between them, the following morning, each along with a teaspoonful of persesquinitrate of iron. This treatment will most probably prevent the accession of the paroxysm. The succeeding treatment consists in giving a teaspoonful of the persesquinitrate thrice a-day, about an hour before meals. In many individuals quinine suspends a paroxysm of ague only for a fortnight or thereabout, the disease returning thereafter every second day, as formerly. If this relapse be anticipated, by a few grains of quinine, given as the first, ague will again be prevented. Patients who, from previous experience, know that the disease will return at the end of a fortnight, ought, therefore, to take quinine at the end of this period, and to persevere in the use of the persesquinitrate till they are restored to perfect health. As stated by Mr. Macpherson, possibly five out of twenty may require a third quantity of quinine at the end of a second fortnight, when the patient's health ought to be so much improved by the persesquinitrate of iron that the disposition to relapse shall have altogether ceased. In perhaps one half of the instances, as already stated, one quantity of quinine, and the continued use of iron, will cure the disease. I know one instance of an adult, and several of children, in whom the paroxysms were prevented, and the disease cured, by persesquinitrate alone; but such cases ought to be regarded as exceptions from the general rule. If the practitioner is not called till after the state of fever in, or paroxysm of, ague has commenced, two or three teaspoonfuls of persesquinitrate of iron will greatly abridge the duration of the distressing headache, and pains in the back and limbs, and often remove vomiting. Besides using medicine, the patient ought to avoid fatigue and exposure to rain, till his health and strength are re-established. Constipation must, of course, be removed; but it is only in a few cases of ague that persesquinitrate of iron constipates.

"When the patient has ague, but without distinct paroxysms occurring at the time, persesquinitrate of iron alone will in a few days produce all the sensations of health, and effect a thorough cure in a few weeks, probably four to six. In this state of the disease, quinine or arsenic are not productive of any benefit.

"The cases I have related are, I believe, fair specimens of the result of the treatment of the different varieties of ague by persesquinitrate of iron, either alone or along with quinine. In a very small number the persesquinitrate will fail, possibly owing to peculiarities in the constitution of the patients; but such instances are so rare that they ought to be regarded as exceptions to a general rule. Almost the whole of the failures arise from inattention on the part of the patient in taking the medicine properly—that is trusting to the persesquinitrate alone, where quinine is also necessary, or not taking the former with regularity for a sufficient length of time."

[We entirely concur with the author in believing that in chronic ague, iron is, *par excellence*, the remedy. Whenever the periodicity of the disease has been broken up by quinine or arsenic, iron ought to be given for some

time, either alone or with quinine. We have lately treated several cases of chronic ague successfully with the citrate of iron and quinine, and others with a mixture in water of the sulphates of iron and of quinine. The persesquinitrate of iron could not have been more useful than were those preparations in the cases referred to. EDITOR LONDON JOURNAL OF MEDICINE.]

DR. AMES ON THE CONGESTIVE FEVER OF AMERICA.

The *Charleston Medical Journal and Review* for July 1851, contains a critical analysis of a Treatise on the Congestive Fever, by Dr. S. AMES, of Montgomery, Alabama, U.S. We reproduce a great portion of this article, as tending to illustrate an important point in the pathology of fever—the relation of congestion to intermittence.

Drs. Wood, Bell, and Bartlett, in their several treatises, describe congestive fever as identical with the pernicious fevers of Europe. Dr. Ames observes that the distinction is an important one; and he believes that the algide variety of Torti, and other continental writers, is the only one which preserves the distinguishing marks of congestive fever; and even in this, he observes, "it is worthy of special remark, by far the greater number of cases reported are not congestive fever, being included under the head, apparently, on the sole ground that at some period of an attack of simple intermittent or remittent fever, usually in the third or fourth paroxysm, a state of sinking has supervened, accompanied by a cold skin, profuse sweating, cadaverous aspect, and a feeble pulse."

"Others again are ordinary remittents or intermittents complicated with local inflammation, to which is most frequently added local congestion also. The comatose variety of Bailey is of the latter kind; this, when not a mere congestion of the brain, added to a periodical fever, is a complication of the latter, with meningeal, or cerebro-meningeal inflammation, the latter in M. Bailey's cases being constantly the lesion which gives them a pernicious character. . . . The delirious variety of Maillot and Alibert is evidently a simple meningitis, without the cerebral congestion of the comatose variety, superadded to an ordinary intermittent or remittent. By the hepatic variety, is usually meant a remittent fever, with gastro-duodenitis, but M. Maillot inclines to restrict the term to cases of rupture of the liver—and so with all the rest, the gastralgie, cardialgie, hæmoptoic, are, with an occasional exception in a case of the algide, all the common endemic fevers of warm climates, attended by some remarkable or dangerous organic lesion."

The nature of pernicious fevers, Dr. Ames contends, from the descriptions of European writers, "is generally decidedly inflammatory, rather than congestive." Congestion, he insists, does not seem to enter as an element into perniciousness, though the symptoms proper to such a state sometimes do. "It is the violence and malignity, in periodical fevers, which alone constitute the essence of perniciousness, at whatever period it appears." It seems, in a word, he adds, that cases of all types and forms of the so-called malarious fevers, having but one common quality, namely, an aspect threatening the life of the patient, have been grouped together and called pernicious. The pernicious fever, then, of European writers, is simply a malarial fever, having a certain violence, or an obvious tendency to a fatal result, without regard to pathological conditions or peculiarity of symptoms. Whereas, congestive fever is a periodical fever of peculiar symptoms, which are dependent on specific pathological conditions. Congestion may, or may not, be pernicious; it is generally, but not always so. The only feature constantly found belonging to it, which is at the same time common to nineteen out of the twenty varieties of pernicious fever, is periodicity.

Dr. Ames contends that the word *pernicious* only expresses a quality

which may be predicated of any disease ; whereas, *congestion* represents a thing, a state of disease, and is a term which can only be applied when that state exists. Hence the word *congestive* must be retained as expressive of the indispensable condition of all pernicious as well as of all congestive fevers, or it must be rejected as inappropriate to both. He thinks that neither alternative can be adopted by those who have studied at the bedside the forms of malarial disease to which they refer.

Among the difficulties growing out of the first of the alternatives presented above, are : that there is involved the necessity of *proving* that all pernicious fevers—that is, all periodical marsh fevers which tend to a fatal result, are, both as regards their pathology, their symptoms, their nature, and their appearance, congestive diseases. Moreover, with respect to the morbid anatomy, it is obvious that if the “pathology of congestive and pernicious fever be the same, the morbid anatomy must be the same also.”

Those who sustain the second alternative, are said to affirm that “congestive and pernicious are but two names which have been given to the same disease”, the former being inappropriate. It is alleged to be inappropriate, because it is assumed that a state of congestion does not obtain in congestive or pernicious fevers, or, if present, does not constitute an important part of the disease. Those who held this opinion respecting the identity of pernicious and congestive fevers, the symptoms, however, of which differed too widely to support the assumption, had to seek the bond of unity in a common pathology. Dr. Ames objects to inflammation being selected as this bond, because of its inappropriateness, because neither “congestive fever particularly, nor pernicious fever generally, is an inflammatory affection”, however strong may be the tendency to inflammation, or frequent its occurrence. Dr. Wood, one of the most able defenders of the identity of the diseases, attributes one of the most constant and gravest symptoms characterising them, to some condition or *status* of the nervous system. He says,—

“Is congestion the source of danger ? I cannot think so. It is confessedly venous congestion that is present in these cases. We constantly meet with this condition in other complaints with no such results. We see it in syncope, when all the blood deserts the capillaries, and becomes concentrated in the veins and great organs. We see it in concussion of the brain occasionally, in no less degree than in pernicious fever. We behold it in all cases of violent shock upon the nervous system, and consequently of the heart, as in some surgical operations and violent injuries. Yet in all cases it is not the congestion, but the nervous prostration, that we fear. Let the latter be relieved, and the former ceases of course. Congestion may occasionally do fatal mischief, as in cases of rupture of the spleen, but these are comparatively rare. It is in the peculiar state of the innervation that we are to look for the source at once of the symptoms and the danger.”

Dr. Bartlett, in his treatise, says—“That the term congestive fever is now generally made use of in the southern and western states, to designate the pernicious or malignant form of malarious fever.” Dr. Ames objects that it is not true that the term is so used, or generally understood by southern or western physicians. The word has, no doubt, been extended by some beyond its proper limit, but every one here (in Charleston) knows that a very small proportion of our pernicious fevers are called congestive fever.

HISTORY. Dr. Ames traces what he considers the true “history of congestive fever” as a distinct disease. Considered as a genus, he defines congestive fever, when fully formed and uncomplicated, to be “a paroxysmal fever of the tertian type, peculiar to warm climates, to places where intermittent and remittent fevers are endemic, and to persons between ten and fifty years of age, having no distinction of hot, cold, and sweating stages in the paroxysm, and being characterised by the following symptoms—the skin is damp, moist, or profusely sweating, being in rare instances somewhat

above the natural temperament on part of the body, but usually much below it, being frequently of a death-like coldness on every part, that of the extremities being uniformly cold; the tongue is moist, or pale, or ash-colored; and the pulse small, feeble, or frequent.

The genus is divided into three species, depending upon anatomical peculiarities—viz., the abdominal, the thoracic, and the cerebral.

Causes. As congestive fever rarely, if ever, occurs, except in company with intermittents and remittents of the ordinary endemic kind, it gave rise to the opinion that the causes are the same; the differences were ascribed to such adventitious circumstances as temperature, old age, previous sickness, habits of living, etc., which were supposed to give such a "direction to the non-cognizable causes, as to develope congestive fever, when, in their absence, the attack would have taken another form." Dr. Ames does not believe this to be so, but he supposes that the causes of intermittent, if the same, undergo some important modifications connected with the advent of congestive fever. For the circumstances assumed to bring about the congestive variety, if it is only a variety, being found in every community, we would expect to find the disease bearing certain numerical proportions, whereas its appearance is extremely variable. In some places liable to intermittents, congestive cases are never seen, and *vice versa*.

Age. Congestive fever, according to the opinion of most writers who have had any experience, attacks the young and vigorous, those between the ages of twelve and fifty. These are also the limits observed by Dr. Ames.

Race. The first and second species are almost confined to the whites. According to the observation of Dr. Lewis, of eighty-six cases of the first and second species, all were whites but one of the first or abdominal. Dr. Ames' notes, which extend over a series of years, refer to but one case among the blacks. These latter suffer, on the other hand, much more from the cerebral form, the proportion given by our author being ten to one. Dr. A. accounts for the opinion of Dr. Lewis, that negroes were hardly, if at all, liable to the disease, by the fact that the last form prevails more extensively in some sections than in others.

Residence. Dr. Ames has never known an instance of a recent resident from a cold climate taking this disease.

Symptoms. As a general rule, with very rare exceptions, Dr. Ames finds that congestive cases assume the tertian type, either double or single, but very seldom the latter. The quotidians which are reported under the name of congestive, prove, on examination, to be cases of ordinary remittents or intermittents, sometimes highly congestive, but retaining very distinctly marked the hot, the cold and sweating stages of the latter; besides presenting other features that are not, and being wanting in some that are, characteristic of congestive fever—they are ordinary intermittents or remittents, with the specific congestions of the second or third species, sometimes of both, engrafted on them.

The following is the account of the *mode of attack* of congestive fever:—

"In the first species, the abdominal, the beginning of the premonitory paroxysm is usually manifested by a slight sense of chilliness, of the creeping kind, felt chiefly along the back and thighs; this is speedily followed by a sense of heat, the skin at the same time falling below the natural temperature, and becoming moist. Sometimes the patient does not admit that he has experienced any chilliness, while those about him (such is his appearance) are satisfied that he has had a chill. There is no reaction, properly speaking: the face is pale, or at least not flushed, and somewhat dusky. The pulse is a good deal accelerated, and has the decided smallness and softness of the disease when more pronounced. There is not much restlessness, and little or no pain; if there be nausea, it is slight; if diarrhoea, it consists of not more than two or three stools in the course of the paroxysm; frequently there is neither. This paroxysm usually occurs in the afternoon, and may last from

six to twelve hours. The patient passes an unquiet night, but gets up in the morning, and attends to his ordinary business, if this does not require much muscular exertion. He complains chiefly of feeling weak, has not altogether lost his appetite, is cheerful, and will not admit that any thing serious is the matter with him. But the shadows of the coming events are, nevertheless, very plainly cast to an experienced eye. When questioned, but not often otherwise, he will speak of an uneasy feeling of oppression about the epigastrium, and of giddiness or lightness in the head, and perhaps of some pain there. His hands and feet are cold and damp, and the skin on them pale, somewhat purplish and shrivelled, while the temperature and feel of the skin elsewhere, is like that of one perspiring in a current of air. The eyes are sunken, the lower lids leaden-coloured, and the face dingy, pale, and sharpened. The countenance has an expression of anxiety, but not as Dr. Parry says of the thoracic species, of terror. The tongue is broad, flat, pale, and moist; the pulse may not be frequent, though it is usually so; it is always small and feeble. With all these threatening appearances, the patient does not complain, and may be engaged about his ordinary business, if not laborious, until the second paroxysm begins."

Of the premonitory paroxysm of the second and third species, we have very imperfect accounts.

In the abdominal and thoracic species, the appearance of the patient is so much like one in the cold stage of a bad intermittent, that his friends do not hesitate to say, if asked, that he has had a chill; but there is no sense of chilliness, the complaint being rather of excessive heat—of being greatly oppressed by it. In the cerebral, there is no complaint of either cold or heat.

The following is the description of the abdominal species most generally met with. The author takes up the symptoms at the beginning of the second paroxysm.

"THE ABDOMINAL. At some period, which there are no means of anticipating with any great certainty, varying from six to twenty-four hours from the decline of the first paroxysm, but most frequently within twelve hours, there begins a decided feeling of *malaise*, which is speedily followed by one or more loose stools, nausea, a feeling of emptiness and oppression, or sinking at the stomach, and a marked degree of giddiness and weakness. At the same time, the nose and lips become bluish, and diminish in temperature; the surface generally is cool and moist, and the hands cold, clammy and shrunken; the countenance assumes an expression of anxiety and dread, which, like the coolness of the surface, is not experienced by the patient. Up to this time, the patient does not lie down unless it be convenient, or he is persuaded to do so by others, in whom his appearance is well calculated to excite alarm. He is restless and thirsty, but complains very little. Half an hour may elapse, sometimes more, sometimes less, during which new symptoms appear—while those first appearing become aggravated, before the disease gets to be fully displayed.

"The skin is peculiarly affected in several respects. It is pale and cold; both conditions continuing until the reaction of returning health, or of that fatal affection of the brain which sometimes terminates the attack. The paleness in the worst varieties is marked by a bluish tint; in others it is dusky; the nails are livid, and the eye-lids a dark, dingy, lead colour. Generally, as the attack advances to a fatal issue, the dependant parts, as the back, posterior part of the arms and the ears, become discoloured by the settling of blood; this never takes place in the second paroxysm of this species, unless complicated or conjoined with the third. The coldness is hardly ever the same on all parts of the surface, but the temperature is everywhere far below that of health; that of the extremities, and frequently of the head and body also, is best expressed by the word usually employed, namely, death-like; at the same time there is something which affects the

touch in an indescribable manner—it is like the sensation of touching a dead body, but not the same—there is less hardness, more elasticity, and the feeling is less repulsive. The skin is always affected by a visible moisture, amounting generally to the most profuse sweating, being slightly glutinous to the feel, the secretion standing in large drops. The sweating is greatest in the most malignant attacks. In the latter, the skin on the feet and hands is formed into rugæ—the washerwoman's hand—as in cholera. In this species, the skins retains a good degree of tactile sensibility, but some rubefacients, particularly mustard, are slow to affect it; a plaster of cantharides ointment will produce vesication in eight or ten hours.

“In the second paroxysm, the patient is not unfrequently affected with spasmodic contractions of the muscles in various parts. This is more apt to be the case at its beginning, if there is much vomiting and purging, or if the patient is then under the operation of a cathartic of the saline kind—a fact which confirms the view of Dr. Parkes in regard to the connexion of cramps with the diarrhœa of cholera—generally they do not appear till a later period; sometimes they are confined to the calves of the legs; at others, they occupy many muscles, as those of the fore-arm, abdomen and face, curving the fingers and distorting the countenance as in hysteria; the pain of these contractions is not violent—at least they are never very loudly complained of. Throughout the paroxysm the patient is extremely restless, changing his position often and abruptly; throwing himself from one side of the bed, or of his body, to the other, or from his back to his side; lying in the latter position for a minute or two, the head thrown forward and the knees drawn up, then turning on his back with a sudden and violent extension of the legs and arms; the jactitation is accompanied with a deep drawn respiratory movement and some vocal expression of distress. In cases of but medium severity, there is always great muscular debility from the development of the second paroxysm to the end of the attack.

“The breathing is always irregular, though not laboured—there is no dyspnœa, properly speaking: there is a feeling of great oppression, as if the air did not penetrate deeply enough into the lungs, but the voluntary muscles of respiration are not called into active exercise, nor is there any calling for open windows and more air—no such expressions as ‘I shall die if I don't get air’; the breathing is for the most part abdominal or diaphragmatic. It consists of a suspension of the respiratory movement, sometimes for more than half a minute, during which the patient is still, and his eyelids partially or entirely closed as if asleep; he then opens his eyes and looks around imploringly, while making a deep, double sighing, prolonged inspiration and expiration, after which come a few hurried respirations, and then another time of repose; these changes go on, alternating with great regularity throughout the paroxysm. The voice is not much altered, except in those bad cases where the vomiting and purging are great, and the prostration excessive; then it takes a kind of deep, hoarse whisper, it appearing as if an effort were required to give it forth.”

The pulse is said to vary but little in the same subject during the same paroxysm if it be not a fatal one—it ranges from 120 to 160 beats per minute. The disappearance of the pulse is almost always a fatal sign. When near death, the second sound of the heart is frequently entirely lost. There is no appetite, the thirst is insatiable, and the demand for cold drinks constant and eager. Nausea, vomiting and diarrhœa are present, the first two invariably.

“The mind is not much deranged, except in fatal attacks, and then only for a few hours before death, when delirium usually comes on. Before that time the mental faculties are said to be unimpaired. But this can hardly be true. There is little or no fear for the result; no such apprehension of death or sense of danger, as one would expect to witness in a sane man. If the patient speaks about his chances of recovery, the tone and language are

those of simple curiosity ; and if told that he is in extreme danger, he receives the tidings with the utmost indifference. He shows also, the same unconcern about his business as about his personal safety ; he proposes no settlement of his affairs, nor arrangement of any kind for his death. The delirium, which precedes, and is one of the harbingers of death, is mild, and I have known it to be playful ; in some instances, it is manifested in part by obscene jests. The senses remain unimpaired until the fatal termination is just at hand, of which the failure of special sensibility is one of the signs ; they are perverted rather than weakened—at least the perceptions are wrong. These observations do not apply to the state of reaction, presently to be noticed, by which death is sometimes preceded.”

At the close of a paroxysm of from six to twenty-four hours, the pulse gains in fulness and force, and a remission takes place, being attended also with a mitigation of nearly all the distressing symptoms. If the preceding paroxysm be an evening one, we may expect the remission will last from four to eight hours ; if a morning one, it may last twelve or eighteen, or even twenty-four hours. “The termination of the remission is manifested by an aggravation of all the symptoms ; there is no feeling of chilliness, but, on the contrary, a more intolerable sense of heat, which, indeed, is the common usher to the next paroxysm.”

Death occurs in two ways ; by a slow and imperfect reaction, which, involving the brain, may be attended by slight and short convulsions ; the other, and more common mode, is by a gradual exhaustion without an effort at reaction. In this there is frequently delirium, but no stupor.¹

The THORACIC species is said to have its peculiar localities in the State of Alabama. It never appears in Montgomery, though not uncommon twenty miles west of that city.

In the following cases, the first reported by Dr. Lewis, and the two last by Dr. Lavender, the greater part of the specific phenomena of this species are easily marked, and the usual course of an attack very well portrayed.

CASE I. Mr. A., a native of the state, came to Dr. Lewis's offices at nine o'clock in the morning for advice. He went to bed last night feeling well, but since daylight had been weak or languid and desponding, with, in his own words, “inability to get my breath”. Pulse about 100, small and deep seated ; skin cool and damp. Says he is thirsty, but does not feel chilly. At three o'clock in the afternoon, his condition was nearly as follows : skin cold, of a pale bluish colour ; muscles soft, except when put on the stretch ; profuse perspiration over the entire surface, standing in large drops on the chest and forehead ; tongue cold, pale, and inclined to a livid hue ; pulse frequent, small, and thready ; action of the heart changed to a tremulous flutter, with now and then a violent pulsation, causing the patient to start ; urine abundant and colourless, slight nausea, countenance haggard, expressing the deepest agony, very restless, walks rapidly over the floor for a moment, then sinks exhausted ; wants an emetic to relieve his breathing ; is perfectly sensible. At ten o'clock at night a remission took place, which lasted until six in the morning. At ten o'clock in the morning found him much worse. After a doubtful struggle through a paroxysm of six or eight hours, during which time there was no complaint of chilliness, but of great heat and burning, the symptoms again remitted. The next morning

¹ Is not this description of the “abdominal congestive fever” very like an account of the symptoms of cholera—the only difference being the *more marked remission* ? And even this is a distinction almost without a difference. We have (*passim* in 1849) expressed our opinion of the close relation of cholera to intermittent fever ; and Dr. Cormack, at the Westminster Medical Society on 6th October, 1849, pointed out the relation of cholera to the intermittent *febbre perniciosa collerica sincopale* of Torti. See LONDON JOURNAL OF MEDICINE, for November 1849, p. 1074-6. [EDITORS LOND. JOURN. OF MED.]

Dr. Lewis was summoned early. The patient began to grow worse at two o'clock, made several efforts to vomit, had not been chilly; he now speaks in monosyllables; says he is sensible, but has no breath to talk; is extremely restless; skin cold, bluish, and mottled about the back; each expiration is attended with a harsh, distressed manner; cannot bear any covering; finally, in a paroxysm of wild despair rises from the bed, rushes to the window, and whilst holding to the facing is seized with a convulsion. He expired a few minutes after being laid upon his couch, having been ill fifty-two hours."

CASE II. Mr. K., a labouring man, aged 38, 25th July 1841, felt some indisposition, with sense of impending danger; some rigors with hot flashes, but no fever. 25th. Somewhat indisposed, but rode four miles to mill, and returned in the afternoon. Passed an uncomfortable night, turning in bed and labouring for breath. At times rising and going to the door; surface cold, but complaining of internal heat. Felt somewhat better in the morning, but soon the distressing symptoms returned with increased force; some shuddering at first; soon became cold, but would not be covered, nor remain long in bed; on rising, would reel, with sense of falling forward; complained of great heat, and went from bed to bed in search of a cooler place; thirst, but no relief from cold drinks; occasional emesis; cold sweat; skin pale and shrivelled; features sunken and cadaverous; countenance unnatural and marked with deep distress; pulse gone from the wrist; heart fluttering rapidly but feebly; tongue pointed, pale and cold; breathing laboured, interrupted and gently oppressed; breath cold; complained of burning up; that he should die for want of breath; would not remain half a minute in one position, nor suffer the slightest covering; rose rapidly from bed, staggered to the door, and returned as hastily to bed; spoke rationally; no appearance of delirium. About three o'clock, rose hastily, said he should die if he did not get fresh air; lay down on the floor; remained quietly on his side for a few seconds, perhaps, without breathing; turned on his back, exclaimed "I am gone," and breathed no more.

Dr. Lavender adds, that cases like this, terminating fatally on the third day, or in the first well-marked paroxysm, often occur during a season in which congestive fever prevails.

CASE III. H. S., aged 18, after a day or two of the usual premonitories, at 10 A.M., September 10th, 1841, became cold, restless and oppressed, with occasional rigors; could not be confined to his room; lay a few minutes in one bed and then hurried to another; extremities cold to the body, but some morbid heat about the head and chest. Was put into a warm bath, fainted, and was with difficulty restored. Saw him at six P.M.; pulse 150, deep seated, thready and intermitting; skin very cold, but much complaint of heat, and sense of suffocation; frequent sighing and interrupted respiration; remaining but a minute in one position, and will not be covered; some watery purging, countenance pale, shrivelled and anxious; eyes suffused and watery; intellect good. Dr. Lavender was preparing sinapisms when systemic death occurred, it is to be presumed, by asphyxia. On approaching the bed, Dr. Lavender found the patient motionless and pulseless; the breathing had ceased, and no motion could be felt over the region of the heart; the jugular veins were much distended; on opening the latter, blood flowed freely, and life was restored for some hours, during which the patient spoke rationally and rested well, so that hopes were entertained of permanent recovery. He sank, however, and died eight hours after the bleeding.

The CEREBRAL species, sometimes called comatose remittent, is seldom met with. The author does not yet enter upon the treatment, but reserves it for another paper.

In his concluding remarks, the writer of the review expresses his opinion that congestive fever is not a fever *sui generis*. Among other reasons, are the following: where we have one case now, fifteen years ago, before the use of quinine, we might have seen ten. The employment of quinine, by check-

ing or annihilating the paroxysms, prevents the disease from becoming congestive. The dose of malaria imbibed by an individual is often not sufficient to produce a fever of periodical type, of a severer grade than an intermittent or a remittent; some of these, if the malaria is sufficiently noxious, merge almost immediately into the congestive or malignant form; if let alone, by the multiplication of the paroxysms they may, also, become congestive. Is it not, then, by the use of so potent a preventive as quinine, that they do not become converted into congestive fever—merely a variety, or an aggravation of a remittent or intermittent fever, and not a separate species of the genus fever?

MOUNTAIN AND MALARIOUS FEVERS PRODUCED BY THE SAME CAUSE.

DR. OATMAN has published the following remarks in an American journal, the *North Western Medical and Surgical Journal*.

In passing over one thousand miles of the vast plains towards the Pacific, the earlier emigrants of 1849 enjoyed great freedom from fevers; but while going through the South Pass of the Rocky Mountains, some of them experienced much dyspnœa, which was increased by exercise. The altitude was 8500 feet above the level of the sea. This dyspnœa so resembled that I had observed in congestive fevers in Illinois, where the lungs were chiefly affected, that I was induced to inquire if they were produced by the same cause. We began to descend the same day, and were in lower altitude; but still several thousand feet above the level of the sea. Within a few days (I lost my journal) one-fourth of our company were taken with what is called the "mountain fever".

They were attacked with depression of spirits, languor, and debility, with extreme aching in the forehead and lumbar region of the back, thirst, coldness, and numbness of the extremities, and slight chills. These were followed by an increase of thirst and pain, with febrile reaction,—generally high, and in some cases, delirium. If not energetically treated, the remission was very slight in the morning. The cases yielded, in from one to three days, to six or eight grains of sulph. quinzæ, and one-fourth to one-third of a grain of sulph. morphiæ three or four times a day, after a mercurial cathartic. The convalescence was as rapid as is usual in this country after such fevers.

Fat bacon and coffee had been the staple articles of food since we left home; and such was our mode of life, that we partook of them in no sparing quantities. These being highly carbonaceous articles, and the weather rather warm, there was evidently an accumulation of carbon in the system. While the same quantities were still ingested, we ascended to an altitude (8,500 feet) where the atmosphere was so rare, that, with deep and frequent inspirations, there was not sufficient oxygen taken into the circulation to maintain the vital actions during active exercise. Hence the dyspnœa and sense of impending suffocation. The carbon, not meeting with the proper elements with which to combine, could not be eliminated from the system through the natural avenues; consequently a vast accumulation would take place in a short time. The coldness of the nights in this altitude, checking the insensible perspiration, would produce a pathological state of the blood, which would derange, consecutively, the functions of the liver, kidneys, etc., through which the carbon is eliminated. The blood, now loaded with carbon, and imperfectly hæmatized, failing thereby to stimulate the cerebral and nervous functions, that state of depression and languor would follow which results in chills and all the phenomena of fever.

Here the country was dry, and the air salubrious; and to the closest observer there was no local cause of disease; yet here only did we suffer from fevers, and here only did we see the graves of former emigrants. It seemed reasonable to attribute these fevers to an excess of carbon in the system, there being no other appreciable cause.

Let us now examine if fevers called malarious are produced by the same cause. Epidemics of these fevers occur, after protracted heat and drought, in marshy and alluvial localities; and, according to Dr. Ferguson and others, in the dried-up beds of streams, and where absorbing surfaces had been flooded, and had become dry. The invariable conditions of protracted heat and drought would so rarefy the air, that the carbon, not meeting oxygen in adequate proportions for combination, would accumulate in the system; and if the diet used was carbonaceous (and soldiers generally use such), the quantities would be increased. If these conditions obtained where there was vegetable matter in an advanced stage of decomposition, as is usually the case where these diseases prevail, then, through the lungs, would large additions be made to the already excessive quantity of carbon in the system. In the "dried-up beds of streams", and where "absorbing surfaces" had been flooded, and had become dry, we would expect to find the remains of decaying vegetable matter largely in the former, and to some extent in the latter, although not perceptible, perhaps, to the naked eye. But if not as alleged, there were the invariable conditions of protracted heat and drought, or a high latitude, and probably carbonaceous diet, which would produce the same pathological condition of the fluids. The California emigrants above referred to, had neither drought nor considerable heat; nor yet were they exposed to alluvial lands made bare, or grounds annually flooded, and now dry and absorbing, with the "vegetation utterly burned up". And yet they had all the phenomena of endemic malarious fever, which was answerable to the same treatment.

This being the true ætiology of these diseases, we may better understand the *modus operandi* of venesection practised for the cure of intermittents in the cold stage; how quinine, and morphia, and even active stimulants, remove all the phenomena of fever by equalising the circulation, quieting nervous irritability, promoting perspiration and the secretions of the liver, kidneys, etc.; and how the recuperative powers of the system are exerted to free the blood from the surplus carbon, by increasing the fulness and frequency of the respiration, by the vigorous circulation, etc., in fever; making powerful (though sometimes abortive) efforts to excite all the organs to vigorous action, through which the carbon is eliminated from the body. Or if there is a relative deficiency of nitrogen in the cerebrum and nervous system, how that is supplied by quinia and other nitrogenised substances.

OBSTINATE VOMITING ARRESTED BY A BLISTER APPLIED TO THE EPIGASTRIC REGION.

A young girl in the Hôpital de la Charité, while recovering from typhoid fever, was suddenly seized with obstinate vomiting. Vegetable tonics, belladonna, Seltzer water, ice, etc., were all successfully employed, but in vain; the stomach could retain nothing. The abdomen was not distended; there was no diarrhoea, nor pain, but the patient was literally dying of hunger; and, after her severe illness, she had especial need of nutritious food. M. PIDOUX applied a blister over the epigastric region, and ordered a *gramme* ($15\frac{1}{2}$ grains) of magnesia to be taken in two doses; enemata of broth were also given. These means succeeded: the vomiting was arrested, and, in three or four days, the patient was able to take broth. [*Journal de Médecine et de Chirurgie Pratiques*, October 1851.]

PARALYSIS TREATED BY ERGOT OF RYE.

The following are three instances, related by M. GÉRARD, physician to the Hôtel Dieu at Marseilles, in support of the efficacy of ergot of rye in doses of from half a *gramme* ($7\frac{3}{4}$ grains) to two-and-a-half *grammes* ($38\frac{1}{2}$ grains) in paralysis of the lower limbs.

CASE I. A miner, aged 39, of strong constitution, after having worked

for some time in a damp situation, was attacked with paraplegia. The paralysis was complete during eighteen months, being accompanied with incontinence of urine ; but it then diminished so far as to enable the patient to walk a few steps with the aid of a stick, although with dragging of the limbs, and irregular gait. The affection had lasted four years, and the treatment had been various. On January 2nd, half a *gramme* of ergot was administered, and the dose was daily increased to two-and-a-half *grammes*. In the course of February, there was marked improvement. On March 15, the patient walked to the bath without aid. Towards the end of April, the incontinence of urine had diminished, and, on May 31, he was dismissed, cured.

CASE II. A man, aged 29, addicted to spirituous liquors, had trembling, with incomplete paralysis and anæsthesia of the lower limbs. He recovered under the same treatment in two months.

CASE III. A man, aged 23, had been exposed in Algeria to damp during four days ; this was followed by fever and delirium, which lasted for a fortnight. During convalescence, he found that he had paralysis of the right arm ; when the limb recovered, the right leg became affected, and then the left. He had paralysis, with incomplete loss of cutaneous sensibility, in both thighs. After various modes of treatment had been tried in vain for three months, ergot was given in the same doses as above mentioned. In twenty-nine days, there was great improvement, and the cure was complete in three months. [*Bulletin Général de Thérapeutique*, 15th September, 1851, as quoted in *L'Union Médicale*, 7th October, 1851.]

PARALYSIS OF THE VELUM PALATI IN CHILDREN.

MM. TROUSSEAU and LASÈGNE, in the *Union Médicale* for 7th October, 1851, refer to an affection, rather frequent in children, which at first gives the idea of fissure of the palate ; which deformity, however, is discovered, on inspection, not to exist. The most prominent symptom is, that the child speaks through its nose. The origin of the affection is sometimes referrible to a violent attack of angina, sometimes to an indisposition in which the child has had difficulty in swallowing, and sometimes to an insignificant indisposition, in which no local pain has been complained of.

On examination, the mucous membrane of the pharynx is often found to present traces of recent inflammation, and the tonsils are sometimes enlarged. But, especially, the *velum palati* is dependent, and closes the back of the throat ; and, in place of moving up and down, it remains fixed, or nearly so. Hence, the voice passes almost entirely through the nose ; liquids also, when taken into the mouth, escape in part through the nostrils.

The paralysis here spoken of, is not that of muscles in a state of inflammatory engorgement, nor is it voluntary paralysis from pain. Acute rheumatism is sometimes followed by paralysis, after all pain has ceased, and deep-seated inflammation of the limbs is sometimes followed by the same results. We can hence understand how the *velum palati* may become paralysed after abscesses have been formed in it.

The paralysis of the closing muscles of the larynx, often following tracheotomy, performed on account of croup, appears also referrible to the same cause as the paralysis of the *velum palati*—an attack of inflammation.

The affection generally disappears in from a few days to three weeks, without any treatment ; if not, it is soon overcome by a few applications of a strong solution of nitrate of silver, or weak ammonia.

Sometimes the paralysis will not be of such simple origin ; but, from the presence of strabismus, pains in the head, etc., will rather be an indication of cerebral disease.

In *L'Union Médicale* for October 23, DR. MORISSEAU, of La Flèche, communicates some observations confirmatory of the above observations ; but he states that he has observed the disease most frequently in adults.

SURGERY.

FOLLIN ON THE ANOMALIES OF THE TESTES.

The following memoir, by Dr. FOLLIN, prosector of Anatomy to the Faculty of Medicine in Paris, is translated, with slight abridgments, from the *Archives Générales de Médecine* for July 1851.

Anomalies of the testicle are met with by the anatomist more commonly than is usually supposed. When the scrota of a large number of subjects are carefully examined, the two testicles are pretty frequently found of unequal size, and, in more rare cases, there is nothing but a very moderate-sized nucleus in the scrotal sac. The individuals have not ordinarily consulted the surgeon on account of an affection of the testes, and have otherwise been in perfect health. Most commonly, they have experienced no symptoms of disease; and the scrotum presents no cicatrices or traces of suppuration.

In examining recruits, surgeons have often made analogous observations. M. Reuves published several cases in the *Archives Générales de Médecine* for 1831. Dr. Marshall, in an examination of 10,800 recruits, noticed some of the anomalies in the position of the testicle; but his descriptions are not sufficiently exact to be serviceable for classification or for diagnosis. Arnaud, who has written a pretty long memoir on the local differences of the testicles, observes: "Much attention should be paid to the examination of the parts and the cause of their absence; and this it is impossible to do well, without having previously ascertained by what means the natural situation of the testicles may have been changed, and what accidents may have caused their loss." But Arnaud's memoir is not satisfactory on the subject.

Several of the old anatomists, as Cabrol, Schenck, Riolan, Bonet, and Schurig, finding only one testicle in the scrotum, or even none, concluded that what they felt represented the true nature of the case. At a later period, the labours of John Hunter on the phenomenon of the descent of the testicle, led to the recognition of the possibility of its being arrested, when it was not found in the scrotum. It is in this point of view, that the subject is treated of in most modern works.

The cases, where the testicle is wanting in the scrotum, may first be ranged under two categories: I. Displacement of the testicle; and II. Atrophy of the testicle.

I. DISPLACEMENT OF THE TESTICLE. This category includes several very important sub-divisions.

1. Retention of the testicle in the abdomen or inguinal canal, in its normal relations with the epididymis and vas deferens; the scrotum containing cellular tissue.
2. Retention of the testicle in the abdomen or inguinal canal; the epididymis and vas deferens being, in greater or less proportion, in the scrotum, in advance of the testicle.
3. Cases where the testicle is directed towards the perinæum.
4. Cases where the testicle has passed across the crural canal.

I. *Testicle retained—situation of Epididymis and Vas Deferens normal—Scrotum containing Cellular Tissue.* The first sub-division includes most of the cases, or rather, those which are most frequently found in books. I add the latter remark, because, at a certain period, it was supposed in every case where the testicles were not found in the scrotum, that they had remained in the abdomen. This statement was erroneous, in being too general. This sub-division represents the different degrees of the state through which the testicle passes in the fœtus; thus, while preserving its normal relations to the epididymis, the organ may occupy a higher or lower position in the abdomen, or may even have partly escaped from the inguinal canal. In the

first case, it is surrounded by a simple fold of peritoneum, the two layers of which, joined in front, form the *mesorchium*. In most of the cases where the testicle has passed through the internal inguinal ring, it is surrounded by a pouch of peritoneum, which may be completely closed, as in the normal state of the scrotum, or may freely communicate with the abdomen, as in the fœtus of eight months.

Several points here demand attention : (a) The structure of the testicle which has been arrested ; (b) The condition of the scrotum ; (c) The causes of the retention.

(a) *Structure of the retained testicle*. Hunter believed, that testicles retained in the abdomen were not competent for fecundation. This opinion has not been commonly agreed to ; and Richard Owen, in his notes to Hunter's works, regards it as incorrect. Without affirming Hunter's view to be right in all cases, I cannot pass it by without saying something in its favour. But I will first cite the facts which militate against it.

M. Cloquet found a testicle in the abdomen ; it was as large as that on the other side, which had descended into the scrotum. A pupil of Sir A. Cooper, who committed suicide on account of his supposed infirmity, had the testicles in the abdomen near the internal inguinal ring. These organs are preserved in the museum of Guy's Hospital, and seem of almost natural size. Some persons of this conformation are said to have had children ; but I will not discuss these facts, for the absolute proof of paternity is wanting. It will be easily observed that, in most of the cases of this kind, there are no details which could enable us to judge of the integrity of the organ.

On the other hand, the opinion of Hunter is supported by numerous and conclusive observations. In some cases, the testicles, when retained in the abdomen, have undergone a remarkable diminution in size and change in structure ; in other cases, there have been no spermatozoa in the corresponding vesicula seminalis. In a young man, aged 19, whose left testicle was found by Dr. Bright at the level of the internal ring, the organ was considerably smaller than in the normal state ; the vas deferens and the substance of the testicle seemed otherwise healthy.¹ Mr. Curling, in his work on *Diseases of the Testis*, mentions the case of a boy, aged 16, who died of anasarca in the London Hospital. The right testicle was retained about an inch and a half above the internal inguinal ring, and was not larger than that of a child of two years. The gland presented a granular aspect, as in children. In all the cases of arrest of the testicle which I have seen, both in the living subject and in the dead body, the organ has been remarkably diminished in size.

But the alteration of the testicle is not confined to a mere diminution of size. It undergoes what might be termed a sort of fibrous transformation—that is, by the diminution of the seminiferous tubes, the testicle assumes a fibrous appearance ; and this is rendered more distinct, by the cellular septa becoming more visible. The diminution of the seminiferous tubes, in greater proportion than the capsule, makes the organ feel flaccid, even through the integuments.

A more profound alteration which the testicle undergoes, is complete fatty transformation ; by which term I mean the deposition in the interior of the testicle of fatty matter, which, as in muscles, causes the disappearance of the normal tissue. I have very recently had an opportunity of examining the testicle of an old man, retained in the inguinal canal. It contained only a yellow fatty mass, in form resembling the testicle ; and well defined by a thin tunica albuginea. The fatty mass was traversed in different parts by well-developed veins. In one point only of this cellulo-fatty mass, there was a very distinct whitish nucleus, of the size of a small pea, evidently formed of a mass of seminiferous vessels, and appearing to correspond to one

¹ BRIGHT, Dr., in Guy's Hospital Reports, vol. ii, p. 258.

of the cones of the vasa efferentia. A portion of the epididymis and of the vas deferens had descended in advance of the testicle into the scrotum ; they were well-developed, and were easily penetrated by the coloured injection. There was a liquid secreted by this portion of the epididymis ; and the vas deferens, as well as the seminal vesicle, contained a brownish liquid, without spermatozoa, and having a great abundance of yellow globules, to which I shall soon again refer. On spreading a portion of the tissue on a piece of glass, no trace of the normal tissue could be detected by the naked eye. With a lens of low magnifying power, no seminiferous tubes could be discovered ; and, with glasses of the highest power, nothing could be seen but very fine filaments of cellular tissue, and large fat-globules.

In a case which I shall presently relate, the vascular structure was imperfectly developed ; but the diminution is far from being always equally considerable. I have even ascertained that, in one case, the veins were well developed, while the arteries remained in the infantile state. I have not made any researches on the lymphatic vessels or nerves.

But the most remarkable physiological phenomenon is the absence of spermatozoa in the secreted liquid. M. Goubaux, a distinguished veterinary surgeon, has given some interesting details on the structure of testicles retained in the abdomen in the horse. (*Recueil de Médecine Vétérinaire Pratique*, tome xxiv, p. 131.) Besides the changes in the size and general appearance of the testicles, M. Goubaux found that the semen contained in the vesicle on that side where the testicle was retained, contained no spermatozoa. I have observed the same absence of these bodies in three cases, while they were present on the side where the testicle had descended. In a fourth case, there were no spermatozoa either on one side or the other ; the subject was an old man, who had died in the Bicêtre of chronic disease of the nervous centres. This pseudo-spermatic fluid constantly contains an abundance of a yellowish matter, which breaks up, like fatty matters, into round corpuscles.

I am indebted to M. Broca for the history of the following remarkable case. He says :

" In May 1849, I observed, in a subject, a small scrotum, containing only one testicle, which projected in the median line : the raphe was pushed far to the left. On opening the abdomen, I found the left testicle in the iliac fossa, about a *centimètre* above the internal inguinal ring. The spermatic artery, almost as fine as a thread, arose from the left renal artery, and was easily injected on introducing a tube into the latter vessel. The testicle lay beneath the peritoneum, and was composed of two distinct portions. The upper one of these was the epididymis : it was almost cylindrical, three *centimètres* in length, and one in breadth. It crossed the external iliac artery obliquely ; its inner and upper extremity ended in a tortuous canal, continuous with the vas deferens. Its outer and posterior end was connected with the true testicle. The proper mass of the testicle was small, elliptical, and flattened, very like a haricot bean. Its greater axis was almost vertical, and met obliquely the axis of the epididymis ; its upper end was connected with the epididymis ; its lower end gave insertion to a fine whitish cord, placed under the peritoneum. This cord descended towards the fold of the groin, and passed into the inguinal canal. A serous canal, a continuation of the peritoneum, also passed into the inguinal canal ; it was as large as a crow-quill, and nearly three *centimètres* long ; it seemed to end in a *cul-de-sac* at the external inguinal ring. The inguinal canal possessed its normal obliquity and length.

" The injection thrown into the spermatic artery had almost exclusively entered the epididymis, and coloured it red. The testicle was as pale as before injection ; I saw only one small vessel, almost capillary, which appeared to end at its upper extremity. The course of the deferent canal was normal. Both vesiculæ seminales were present ; the right was of normal

size ; the left was as broad, but a *centimètre* shorter. The subject was about thirty years old."

(b). *Condition of the Scrotum.* In some cases, the scrotum is filled with cellulo-adipose tissue, without the least vestige of a vaginal cavity ; in other cases, a vaginal cavity is present. These varieties are easily explained. When the testicle has remained in the inguinal canal, and is permanently fixed there, it is commonly completely enveloped by a serous pouch, cut off, in most cases, from communication with the peritoneum ; it scarcely descends lower than the external ring. The retained testicle is, from its position, subjected to violence, and sometimes to the mischievous application of bandages : hence this *inguinal tunica vaginalis* is not uncommonly more or less obliterated, or divided by fibrous bands. The normal coats of the scrotum, except the cremaster, are present ; but it is very difficult to distinguish them.

Where there is a vaginal cavity, we have before us examples of those testicles which may be pushed down with the hand, but which regain their original position when the pressure is removed. In these cases, the testicle is retained by solid adhesions, or by a natural shortness of the deferent canal. When pushed down, it elongates its peritoneal sheath ; but the retaining cause does not permit its complete descent. An anatomical examination would probably reveal a disposition analogous to what is seen in some persons who, to escape military service, push back the testicle into the inguinal canal.

In all these cases, whether there be a vaginal cavity or not, the scrotum has lost its bilobed form, the median furrow has disappeared, and a single projection, formed by the sound testicle, indicates the internal lesion.

(c). *Causes which may retard the descent of the Testicle.* These have been referred to : (α), the testicle itself ; (β), the surrounding organs (the peritoneum or intestines) ; (γ), the gubernaculum testis ; (δ), the pillars of the inguinal ring.

(α). I believe that it is very rarely that we can join Hunter in accusing the testicles of being the cause of their own arrest. To effect this, an unusual state of hypertrophy would be required ; and, moreover, the testicle is completely passive during its descent.

(β). Morbid adhesions between the testicle and the surrounding organs may arrest its descent. Thus the testicle may be arrested at a higher or lower point, by adhesions to portions of the peritoneum. If, notwithstanding these bands, the testicle manages to follow its normal course, the result is congenital hernia, with adhesion of the intestine to the testicle. In examining the body of a man aged sixty years, Mr. Curling found the right testicle near the internal inguinal ring ; it was small, and quite adherent to the epiploon. On the subject of intra-uterine inflammatory action, the reader may consult Dr. Simpson's *Contributions to Intra-Uterine Pathology*, published in the *Edinburgh Medical and Surgical Journal*, Nos. 137 and 140.

(γ). If, in the mechanism of the descent of the testicle, we admit the intervention of the gubernaculum, it must be acknowledged that, from want of energy, this muscle may passively retard the descent of the testicle ; and if we would make the anatomical researches on the gubernaculum agree with its supposed physiological action, we must recognise two distinct periods in the descent of the testicle. In the first, the intervention of the gubernaculum is easily imagined ; in the second, the influence of gravitation must explain the phenomenon. The first period corresponds to the progress of the testicle as far as the inguinal canal ; the second extends to its arrival at the bottom of the scrotum. This being established, it is not unreasonable to suppose that atrophy, or arrested development of the gubernaculum, may retard the first phases of the descent of the testicle. It is impossible to absolutely prove this proposition ; but, in examining the gubernaculum in a large number of fœtuses, I have found it of very unequal size in children of the same age, and often on one side, as compared with the other. In some cases, too, all

appearance of muscular structure has disappeared, and there is only a simple cellular filament.

(δ). The orifices of the inguinal canal, especially the lower one, may present an insurmountable obstacle. The external ring is entirely fibrous, and may present strong resistance, so that the testicle is often arrested in the groin, after having entered the inguinal canal. If we try to push down the testicle of a six or seven months' fœtus, retained in the inguinal canal, we find an obstacle in the tense pillars; and if the space between these were more narrowed, the exit of the testicle would doubtless be prevented. Such is the opinion of Wilson, in his *Lectures on the Urinary and Genital Organs*, p. 405. M. Delasiauve (*Revue Médicale*, March 1840, p. 363), has mentioned a case in which the organ was retained by the edge of the inner pillar of the ring.

2. *Testicle retained—Epididymis and Vas Deferens in Scrotum.* Examples of this anomaly are more frequent than would *à priori* be supposed. I have in my possession four specimens which exhibit the different phases of this curious arrangement; and I have been able to ascertain its presence in two instances in the living subject. These cases, and two similar ones published in the reports of the Society of Anatomy, will serve as the foundation of my remarks.

When the testicle is arrested at the inguinal canal, the epididymis and vas deferens may leave it, and descend lower; the obstacle which prevents the descent of the testicle not being sufficient to arrest them. These two parts, then, escape through the ring, and descend more or less into the scrotum. This is more likely to occur, where the obstruction is at the external ring; the constriction may be sufficient to arrest the testicle, but not the epididymis, the descent of which is constantly favoured by gravitation. In the normal state, it is the end of the epididymis which first passes through the ring.

In one specimen,¹ an atrophied testicle is retained in the inguinal canal. It is continued at its lower border by an epididymis, a small portion of which has commenced to pass in advance of the testicle. This is the first degree of the anomaly; for the portion of the epididymis has not yet escaped from the inguinal canal.

Last summer, in demonstrating the operations on a subject, I found only one testicle in the scrotum. On making an examination, I found the genital organs normal on the left side. On the right side, there was in the inguinal canal, a little above and to the right of its external orifice, a testicle of the size of a pretty large almond. Its long axis followed the oblique direction of the inguinal canal, and its anterior border looked upwards and backwards. The epididymis lay along its lower edge, and, escaping by the external orifice of the canal, was unrolled in the scrotum for the extent of six *centimètres*. There were about four *centimètres* of the epididymis in the inguinal canal. It was followed by the vas deferens, easily recognisable by its flexuosities, and by its large calibre. The convolutions of the epididymis were enveloped in a prolongation of the serous pouch covering the testicle. The vas deferens, in re-entering the abdomen, passed behind the testicle. In the inguinal canal, the testicle was covered by a serous capsule, which did not communicate with the peritoneum. Its epididymal prolongation ended in a *cul-de-sac*.

My third specimen was taken from a patient who died in the Bicêtre. The testicle, arrested in the inguinal canal, was four *centimètres* in its greatest diameter, which is oblique from above downwards, and from without inwards. The epididymis was extended to almost three times its normal length. It lay along the lower edge of the testicle, and then extended six *centimètres* from this organ to the bottom of the scrotum. Both the epididymis and the

¹ The specimens referred to are deposited in the Museum Dupuytren.

testicle were contained in a pouch, which was much constricted at the external inguinal ring; it had, no doubt, been pushed down by the epididymis.

I have recently found, in an old subject, a case analogous to the preceding one in certain points, but different in others. The inguinal canal was occupied by a resistant fibrous body; this was the testicle, formed of fatty tissue, with only a few seminal tubes at one point, which seemed to me to be vasa efferentia. It was enclosed in a serous capsule, distinct from the peritoneum, but communicating by a very narrow neck with another sheath contained in the scrotum. The latter capsule, which descended six *centimètres* below the external inguinal ring, contained about two-and-a-half *centimètres* of epididymis, and five of vas deferens. Some fibrinous bands crossed from one wall to the other. There was no more direct communication between the fatty testicle, and the epididymis in the scrotum. In all probability, the portion of the epididymis in connexion with the testicle in the canal had also degenerated.

I may also mention two cases in which epididymitis occurred in a testicle arrested in the inguinal canal. The inflammation had rendered very distinct a hard, resistant, painful canal, descending from the testicle in the direction of the scrotum; this was the engorged epididymis.

The *Bulletin* of the Society of Anatomy contains two cases analogous to mine. The first is that of M. Conte (vol. xvi, 1841, p. 265). Both testicles were placed in the abdomen, almost at the level of the internal ring. A kind of peritoneal sac passed along the inguinal canal into the scrotum. The two spermatic cords followed their usual course as far as the ring, and then turned from below upwards, again traversing the inguinal canal, to reach the testicles. There are not, unfortunately, sufficient details given of the relative position of all the parts.

M. Deville presented to the Society of Anatomy, in 1848, a specimen analogous to those which I have already mentioned (*Bulletin*, 1848, p. 32). The subject was a man about forty years old. The scrotum appeared of regular conformation. The left testicle was in the inguinal canal; it was very small, elongated, and much flattened; the epididymis was also very small. The vas deferens arose as in the normal state; but, instead of ascending, it descended along the canal as far as the scrotum, after which it again mounted along the inguinal canal to follow its usual course; thus forming a very elongated loop in the scrotum. On the same side, there was a large varicocele. The right testicle was completely wanting.

To resume; we find in this category of cases several distinct forms. Sometimes the testicle remains in the inguinal canal, and, by virtue of its weight, the epididymis passes a little way down; sometimes the epididymis becomes more unrolled, escapes from the ring, and is easily felt higher or lower in the scrotum; sometimes the connexion between the testicle and its epididymis is altogether broken.

3. *Testicle directed towards the Perinæum.* In some mammalia,—the pachydermata for example,—the testicles are placed under the skin of the perinæum. This arrangement has been met with in man. Hunter has mentioned two cases. In one, the right testicle was situated about an inch below the termination of the scrotum, and half an inch to the right of the perineal raphe, where a kind of pouch was formed by the integuments, presenting none of the rugosities of the scrotum, from which it was perfectly isolated. Neither testicle nor spermatic cord could be felt in any part of the scrotum, although it was easy to push up the testicle as far as the groin; on removing the hand, the testicle immediately returned into the pouch, and the spermatic cord could be traced from the testicle as far as the ring, passing about a quarter of an inch to the right of the scrotum. The scrotum appeared normally formed on both sides: and the left testicle was in its natural position. Mr. Curling says he has observed two such cases;

M. Ricord has also observed two. M. Vidal relates the case of a friend of his, a distinguished musical composer, who had the testicle in the perinæum a little in front of the anus, just where the first incision is made in bilateral lithotomy. One of his brothers had the same anomaly; the father was free from it. The testicle was smaller and less sensitive than usual. This extraordinary arrangement has not yet been investigated by autopsy.

3. *Testicle directed towards the Crural Canal.* M. Vidal relates the case of a person in whom the testicle, instead of passing through the inguinal, escaped by the crural canal. It turned up towards the abdomen like a crural hernia: the inguinal canal gave exit to an enterocle. He also refers to another case of the kind: possibly to that related by Eckhardt, in *Loder's Journal für die Chirurgie*, Bd. ii, Heft. 1, where the testicle at first passed through the inguinal canal; but, having been pushed back into the abdomen, it escaped through the crural canal. I have not myself observed any instance of the two forms last described; but I mention them to render my history perfect.

ATROPHY OF THE TESTICLE. Under this head may be comprehended those cases in which

1. The testicle is arrested in its development.
2. The testicle diminishes, after having reached its full size; with which must be connected the cases where it completely disappears, a certain part of the epididymis remaining.

1. *Arrest of Development of the Testicle.* Cases of this kind are much more frequent than is imagined. In a certain number of individuals, the testicles do not follow the growth of the rest of the body; but this scarcely attracts their attention, and is only recognised where pointed out by the surgeon. Lallemand (*Pertes Seminales*, tom. ii, p. 380) relates the case of a man who had never felt sensual desires, and whose penis and testicles were very small. Mr. Curling mentions a young man who died in the London Hospital at the age of 17 years and 9 months: his penis and testicles were as small as those of a child four years old. Both testicles were of equal size; the tubular appearance was very indistinct. There were no spermatozoa in the vesiculæ seminales.

But it is remarkable, that these quasi-dormant testicles seem to rouse themselves under venereal excitement. Wilson (*Lectures on the Urinary and Genital Organs*) was consulted by a man aged 26 years, whose penis and testicles were as small as those of a child of eight years. This man married, and had children; and, at the age of 28, the organs had grown to the adult size.

In these cases of arrest of development without apparent cause, both testicles are equally affected.

2. *Decrease of a Testicle which has attained its Full Size.* This is generally confined to one testicle, and may be in some measure determined by comparison. But it is not easy to define what constitutes diminution of the testicle; for the normal weight and size of this organ cannot be well determined, as the testicles of different people vary too much. I shall treat in succession of (1) the lesion, and (2) its cause.

1. *Anatomical Condition.* Those testicles which have undergone a diminution of their original volume have not the uniform tension and resistance which are found in the healthy organ. The tunica albuginea is often wrinkled, always flaccid and colourless; it is very easily seen that there is no proportion between it and its contents. This state of the tunic, in some cases, gives rise to an obscure sensation of fluid being contained in it.

In some cases, there is only an inequality in the size of the two testicles; or one of them may be only as large as a haricot bean. And this is not the

extreme term of the series; for I possess several specimens in which the testicle has totally disappeared. The epididymis does not generally diminish like the testicle; and it is not uncommon to find it of almost normal size, while the testicle is very small. These parts are formed independently of each other; and this independence continues even in the pathological state. In one case, which I measured, the following were the dimensions:—

Longitudinal diameter of healthy testicle.....	35 millimètres.
————— of atrophied testicle	15 "
————— of healthy epididymis	48 "
————— of atrophied epididymis	40 "

The vaginal cavity remains in most cases; but when the inflammation has been the cause of the atrophy, the cavity is frequently divided into several loculi.

When the atrophy has reached a certain degree, the finest liquids can scarcely be injected into the substance of the testicle. In an atrophied testicle described by Sir A. Cooper, and preserved in the Museum of St. Thomas's Hospital, the mercury with which it was attempted to inject the organ, has only descended as far as half way between the inguinal ring and the testicle. I have tried to be more successful in injecting, by employing turpentine, coloured blue, and have arrived at the following results.

In atrophied testicles, even when very much diminished, the epididymis is easily injected; at least, the injection reaches the head of this structure, and there it generally stops. In some more rare cases, it passes into the testicle, following one of the cones at the head of the epididymis. In one specimen in my possession, which was for a long time submitted to injection by pressure, one single cone of the vasa efferentia of the testicle is injected, so that one single lobule of the organ is coloured blue, while the rest is completely fibrous. In fact, in place of the greyish tubular substance which can be easily pulled out in filaments, there is a white opaline fibrous-looking tissue, which cannot be unrolled, but readily tears. The seminal canals appear to be replaced by cellular fibres, infiltrated with serosity. With the microscope, no tubular structure can be detected in the part answering to the canals, but only simple filamentous tissue. In some not unfrequent cases, portions of the normal structure of the testicle may be recognised here and there.

Another change is fatty degeneration. In an atrophied testicle, I have seen a fatty mass in the interior of the tunica albuginea; all appearance of tubular structure had disappeared, except at one point, where there were some tubular seminiferi, which could be unrolled. The tunica albuginea was very thin.

To resume: atrophy of the testicle presents itself under several very distinct forms. Sometimes there is merely an inequality in size; sometimes the organ almost entirely disappears; sometimes it undergoes fibrous transformation; and sometimes fatty degeneration.

The last form to be noticed, is complete disappearance of the testicle with preservation of the epididymis. I have been enabled to examine carefully two cases of this kind, and will relate them. The first was shewn by me to the Biological Society in August 1850; the second was communicated to the Academy of Medicine, by M. Gosselin, on the 4th of February, 1851.

CASE I. The subject was a man thirty years old. On examining the scrotum, I found the right testicle in its normal condition; but the sac on the right side appeared completely empty; yet a small body was felt by pressing with the finger. There was nothing to indicate that the testicle was arrested in the abdomen or in the inguinal canal. I sought for the vas deferens at the upper orifice of the inguinal canal; and, having found it, I injected turpentine coloured blue, by means of pressure. The liquid passed rapidly, and filled the numerous flexuosities of a little body which occupied the scrotum.

This body—the epididymis—was readily unrolled ; its tubules were situated in the midst of a rather closely-packed cellulo-fatty tissue ; but there was no trace of a vaginal cavity. The left vesicula seminalis was smaller than the right. Both contained liquid ; on the right side, it was thicker and more consistent, and contained a large number of spermatozoa. In the left seminal vesicle, the liquid was slightly brownish, and presented no trace of spermatozoa. But it contained a very large number of large globules, pretty regularly rounded, unequal in size, slightly yellowish, and somewhat like oil-globules.

CASE II. The subject was a man named Bixner, executed for rape and murder. Here, as in the other case, the skin of the scrotum was entire. The left testicle was large, while the right one was entirely absent ; the epididymis alone remained. M. Gosselin injected the specimen in the same way as I have already described.

On the right side, the vas deferens escaped from the inguinal canal, with the other constituents of the cord. At nine *centimètres* above the ring, the canal began to become tortuous ; this condition gradually increased, and, fourteen *centimètres* below the ring, the vas deferens twined from below upwards. The flexuosities became very fine and numerous, and completely assumed the appearance of an epididymis. Below this epididymis, there was nothing but fibro-fatty tissue, in the thickness of which were found several cysts of the size of the head of a pin, containing a brownish liquid, with granular globules, and no spermatozoa. The left testicle was six *centimètres* in length, by four in breadth ; the two vesiculæ seminales were of the same size. No vestiges of a testicle could be found on the right side.

I think that we have here examples of complete atrophy of the testicle. The absence of all cicatrix, of all trace of fistula, prohibited the supposition that it had been lost by injury.

Blandin relates a case without testicle, cord, or vesicula seminalis, on one side ; and Velpeau has cited an analogous fact, where the spermatic vein and artery were also absent.

2. *Etiological Conditions.* Some of the alleged causes of atrophy of the testicle are very doubtful, others are probable, while several are incontestable. The doubtful causes I will pass over in silence.

Among the probable causes, I place the influence of certain lesions of the nervous centres. In vol. xx of the *Medical and Physical Journal*, a case of atrophy of the testicles is mentioned, following paralysis caused by fracture and partial dislocation of the first and second lumbar vertebrae. Wardrop, in his edition of Baillie's works, relates a case of atrophy of the testicles following a violent blow in the lumbar region. Some authors also state that they have observed a diminution in the size of the testicles to follow injuries of the head : examples are given by Mr. Lawrence, in the *Medico-Chirurgical Transactions*, vol. iv, p. 214 ; by Larrey, in his *Mémoires de Chirurgie Militaire*, p. 262 ; by Lallemand, in his work on *Pertes Séminalles Involontaires*, tome ii, p. 42 ; and by Mr. Curling, in his work on *Diseases of the Testicle*. Dr. Brown-Séquard states, that in his experiments on section and reproduction of the spinal cord in serpents, he has observed a notable decrease in size in the testicles after this injury.

The influence of the vascular system is most marked in a case related by Wardrop (*Op. Cit.* vol. ii, p. 315). A man whose testicles were almost absorbed, nothing but the tunica albuginea remaining in the scrotum, died of an aneurism of the aorta, formed at the origin of the spermatic arteries, which were completely obliterated.

Among the incontestable causes, I place compression, inflammation, and the employment of certain substances. Compression, sufficient to produce atrophy, may be exercised by hydrocele, by hæmatocoeles, by elephantiasis scrofi, or by simple varicocele. Most persons who have long had varicoceles, have the testicle smaller on the affected side.

Inflammation acts most energetically. Hunter, in his work on syphilis, cites three cases : Hamilton, in the *Edinburgh Philosophical Transactions*, vol. ii, art. ix, p. 59, relates two cases of parotid (metastatic) orchitis followed by atrophy. For remarks on the influence of iodine, the reader is referred to a memoir published by M. Cullerier in the first volume of the *Mémoires de la Société de Chirurgie*. In some cases, the atrophy cannot be referred to any of these causes.

From not paying sufficient attention to the faulty positions of the testicles, many errors in diagnosis have been committed, with regard to swellings in the groin. Moreover, testicles in this situation are especially liable to become inflamed. I will relate two instances.

CASE I. S., aged 24, a watchmaker, was admitted into hospital on March 15, 1851. He had been attacked with symptoms of gonorrhœa on March 1st. On the 10th, a pain in the right groin appeared suddenly, during walking ; in the evening he was feverish. On the 11th, a swelling appeared, in addition to the pain. The following were the characters of the swelling on his admission.

It was placed immediately above the Poupart's ligament ; it was elongated, and followed the course of the inguinal canal ; it was as large as an egg, and at first looked like a bubo. Its upper extremity was continuous with a cord of the size of the little finger, and, like the swelling itself, very painful on pressure. Its lower end was continued by a cord, directed towards the scrotum, much resembling the vas deferens. The skin was moveable, and had not changed colour ; there was no fluctuation. The swelling was large, and even on the surface. The patient said that he had always had something of the size of a nut in this region, tender on pressure, and descending somewhat after a long walk. On examining the scrotum, the left testicle alone was found ; the raphe was placed to the right of the median line. This anatomical arrangement, with the characters of the tumour, pointed out that it was an epididymitis and not a bubo. Leeches and antiphlogistic treatment were employed ; and the patient left on April 11th.

CASE II. Here the individual, a patient of M. Jobert in the Hôtel Dieu, had the left testicle retained in the inguinal canal. The case is very analogous to the one just related : the retained testicle was inflamed from the same causes.

If it be well established by this memoir that most of the testicles retained at the inguinal ring become atrophied, that their glandular structure undergoes fibrous or fatty degeneration, and that they lose the power of secreting spermatozoa ; and if, on the other hand, there is a tendency to the production of inflammatory enlargement, in the organs thus situated,—the surgeon ought, in the early life of the individual, not to rest satisfied with this arrangement. One is too apt to regard these testicles as normal, and to do nothing. Would it not be possible, in early life, to hasten their descent by often repeated pressure from above downwards ? When the organ has reached the bottom of the scrotum, it would be easy to prevent its return, by a properly applied bandage. This would present no difficulty or danger, and would restore the testicle to its normal situation.

SCOREUTIC URETHRITIS.

Dr. BOYÉ, of Epinal, describes, in the *Gazette Médicale de Strasbourg* for 12th October, 1851, a form of urethritis dependent on the scorbutic diathesis. He has seen twenty-six cases of this kind. The mucous membrane of the urethra, as far as it can be seen, is of a brown red colour, and as if covered with small [blafardes] spots. A good idea of the state of the urethra may be formed from remembering the fungous appearance and violet tint of the gums in scorbutic patients.

Persons with scorbutic urethritis often present other lesions arising from

the same diathesis, such as small obstinate fungous humours or spots on the skin of the penis or scrotum; but the more common concomitant or antecedent lesion is the characteristic alteration in the gums. In nineteen cases out of twenty-six, the scorbutic urethritis was found in apparently strong healthy persons, of all occupations and classes. Scurvy may attack the urethra, and yet not be recognised: because the affection of the gums has diminished or ceased—the external manifestations of the diathesis having changed their place.

The pathological lesions of the urethra appear very various. In some cases, the colour of the mucous membrane alone is changed, and the pain scarcely extends beyond the meatus urinarius. In others, there is great tenderness of the whole urethra on the introduction of a sound. In some cases, irregularities, nodosities, etc., can be felt with the finger, when the sound is introduced.

The disease is always tedious, and liable to return. Rapid cures must not be trusted.

The treatment is dietetic and medicinal. Dr. Boyé prescribes roast meats, wine, vegetables, and highly seasoned dishes; he prohibits spirits, coffee, and beer, as well as tepid baths. He gives a tumbler of broth, with cresses, every morning; and, an hour after, four capsules of copaiba.

In a third of the cases, cauterisation with nitrate of silver, by means of Lallemand's sound, has been used. This operation is not generally very painful. The cauterisation is commenced at the depth of seven or eight centimètres from the meatus; and gradually, in successive cauterisations, on alternate days, brought to the meatus urinarius: then the urethra should be cauterised as far as the disease is believed to reach. Some blood is passed on the day after the first cauterisation; but this gradually diminishes. The caustic is sometimes required to be applied ten or fifteen times, in order, with internal treatment, to overcome the disease. [Abridged from *L'Union Médicale*, 28th October, 1851.]

PECULIAR KIND OF LACHRYMAL TUMOUR, PRODUCED BY
FLATTENING, AND LATERAL ENLARGEMENT OF THE
NASAL BONES.

DR. SICHEL has the following observations in a memoir on epicanthus, recently published in *L'Union Médicale*.

Lachrymal tumours are pretty often met with in persons in whom the root of the nose is strongly depressed, and, so to speak, hollowed out. The proper nasal bones are flattened and enlarged laterally, but without gaining in this direction what they want in height. The apophyses of the superior maxillary bone are also flattened and enlarged laterally, while they are thinned from behind forward. Hence, the lachrymal sac and the nasal duct are large, sideways, but of very little depth from before, backwards. The diminution of the anterior posterior diameter of the inferior orifice of the nasal duct prevents the free exit of the mucous and tears which accumulate and distend the anterior wall of the lachrymal sac. Hence, a lachrymal tumour may be produced in persons who have the nose flat, and as if hollowed at the root by very slight accidental causes; such as a simple cold, slight contusion of the lachrymal region and adjacent parts, or any circumstance tending to produce inflammation, however slight, in the mucous membrane of the lachrymal passages. These causes act with more power when the malformation of the nasal bones is coexistent with a lymphatic temperament, or with scrofula. The abnormal structure of the upper part of the nose, and especially the narrowness of the orifices of the frontal sinuses, prevent the escape of the mucous from these cavities, so that it becomes decomposed, and exhales a peculiar fœtid odour; this constitutes a variety of ozœna. After some time, the disease may become complicated with alteration of the mucous secretion of the frontal sinuses and nasal cavity, and with ulceration of the pituitary membrane,—circumstances which may

induce permanence, obstinacy, and usually incurability. This kind of lachrymal tumour ought to be chiefly met with in persons of the Mongolian race; but it has not yet been pointed out by authors. It is very difficult to operate here. The exact situation of the tumour, from the deformity of the bones, cannot be readily ascertained; the bistoury penetrates with very great difficulty, and sometimes not at all. The instrument should be at first introduced in a flat position, turning its flat side more strongly outwards, and making its cutting edge deviate more from the median line. In these cases especially, as well as in simple mucous obstruction of the lachrymal sac and nasal canal, injections of pure water are indicated, and are especially useful in the first stage, by expelling the stagnant mucous, and preventing it from accumulating at the lower orifice of the nasal duct. After some time, medicated injections become necessary; and these may at first consist of water, with some creasote or chloride of sodium or calcium, in order to destroy the repulsive odour of the mucous, and to modify the vitality and secretion of the membrane. After some time, when the fœtidity has been diminished, or even from the commencement, the above means may be alternated with astringent injections; first, of acetate of lead, then of sulphate of zinc, copper, or iron, with alum or tannin, and, lastly, of nitrate of silver. Ointments of red or white precipitates may become useful at a certain period of the disease. These means should all be employed before an operation is attempted; and this can only be practised with any chance of success when it is certain that the primitive anomaly of conformation is not the only cause of the tumour. [*L'Union Médicale*, 9th October, 1851.]

TREPHINING IN CARIES OF BONES.

M. JULES ROUX, of Toulon, has published an article on Trephining in Cases of Caries, in the *Union Médicale* for October 14, 18, 25, and 28, 1851.

His object is not to bring forward the operation as novel, but to cause more attention to be paid to it. The two conditions which he considers indispensable to success are: 1. That the trephine, and other instruments employed, should be capable of removing the whole diseased portion, and even going beyond it; 2, that the patient should be placed under such hygienic and therapeutic conditions as are most likely to prevent a return of the disease.

He relates cases of the following descriptions, in which he has operated with the trephine: caries of the petrous portion of the temporal bone; of the anterior wall of the right superior maxilla; of the sternum (two cases); of the malar bone; of the left tibia; of the right tibia (two cases); of the os calcis; and of the great trochanter.

Of the eleven patients operated on, eight recovered; two died from scrofulous cachexia, and one from the operation not having been perfectly performed. M. Roux considers the proceeding safe, and eminently calculated to preserve the remaining sound part of the bone.

OBSTETRICS.

WHY IS A TRUE CORPUS LUTEUM FORMED (NORMALLY) ONLY WHEN PREGNANCY OCCURS?

DR. ALEXANDER HARVEY, of Aberdeen, after establishing the validity of the assumption on which the question proceeds, thus replies to it, stating, at the same time, the reasons of his belief:—"Although the formation of a true corpus luteum, as consequent on the pregnant state, has here been referred to the *determination of blood* attendant on that state, it would, perhaps, be physiologically more accurate to regard it as an ulterior or incidental result of the *increased vital action* going on in the uterus and its contents, and by which the determination in question is itself maintained.

That the ovaries, although they have no part to play in that vital action, should be indirectly influenced by it, and participate in the excitement existing in their immediate vicinity, would be no ways more remarkable than the fact of the mammæ then doing so,—organs remotely situate from the uterus, and having, during the pregnant state, nothing to do with the processes then in operation.” [*Edin. Monthly Journal*, October 1851.]

HERNIA OF THE OVARY MISTAKEN FOR ENCYSTED TUMOUR OF ONE LABIUM.

M. GUERSANT, with his characteristic candour, lately called the attention of his class to the following case.

CASE. A little girl, eleven years old, had a very moveable tumour, evidently congenital, in the left *labium majus*; for eighteen months only it had made her lame. It was of the size of a nut, painful on pressure, obscurely fluctuating in one point, and hard in its most dependent part. The inguinal ring was in a normal state. After a minute examination, M. Guersant diagnosed an encysted tumour, which he proceeded to operate on by incision. On making the incision, a cellulo-serous envelope was reached, through which was seen a body like a testicle: it was connected with a cord coming from the inguinal ring, which cord was tied, and cut through above the ligature. A cellulo-serous sac was then recognised, in the centre of which was a portion of Fallopian tube, and the ovary, which was somewhat varicose, and a little larger than usual. Intense peritonitis supervened; and the patient soon died.

M. Guersant asks whether, if the presence of an ovary had been suspected, the attempt ought to have been made to reduce it, instead of extirpating? Reduction would, without doubt, have been preferable; but it would have been impossible, with the adhesions which existed between the sac and the tube. In such cases, it would be best to leave it alone, unless the pain and impediment to motion were great; and an operation would be still more indicated, if there were any signs of degeneration. Hernia of the ovary is extremely rare; this organ, when displaced, scarcely ever passes beyond the inguinal ring. [*Journal de Médecine et de Chirurgie Pratiques*, October 1851.]

TOPICS OF THE DAY.

London, 26 December, 1851.

WE propose in future to give, in a more methodical form than we have hitherto adopted, a survey of current events and opinions; attempting, as far as the nature of the subject will admit, to adopt the narrative in preference to the paragraphical style. Our weekly cotemporaries must, as a matter of course, generally supply earlier information; but, nevertheless, we have been assured that a brief monthly review of the TOPICS OF THE DAY, is likely to prove acceptable to many of our readers.

HOMŒOPATHY, during the year 1851, has greatly excited the profession in all parts of the United Kingdom; but, with the exception of a little rapid controversy in the non-editorial department of the *Medical Times*, the Medical Press, the Societies, and the Colleges (save one), have treated the relation of this form of quackery to our profession, as a question of morals, and not of therapeutics. If homœopathy be inconsistent with all medical experience and with common sense, as the medical profession in this country believes it to be (and has solemnly declared it to be), it would evidently be the height of absurdity to obstruct the business of our societies, and to fill the columns of our journals with the discussion of the dogmas of Hahnemann; while, on the other hand, it is not the less incumbent on us as a profession to publicly separate ourselves, collectively and individually, from those who pretend to arrest diseases by following the rules of that arch-impostor.

With such persons, be they the deluders or the deluded, we can have no common ground of association or co-operation; and therefore, when we proclaim this to the public, it is not the cry of persecution, but the irrepressible voice of honest and consistent men.

The Council of the ROYAL COLLEGE OF SURGEONS OF ENGLAND is the only public body which has not acted in a satisfactory manner. Dr. J. C. Hall urged the Council to speak out; and the result was the adoption (by a majority of one), of the following resolution, on the 26th of November. "*That the Council have attentively and respectively considered the various communications which have been received on the subject of homœopathy; and after mature deliberation, have resolved that IT IS NOT EXPEDIENT for this College to interfere in the matter.*" The majority of the Council seek to defend their resolution by giving forth, that their bye-laws are not sufficiently explicit to enable them to expel quacks; or, at all events, that their doing so would inevitably be carried by *mandamus* into the Court of Queen's Bench, where the issue would depend upon legal chances, viz., the interpretation which a fastidious judge and a bamboozled jury might put on a single word. The bye-law referred to is couched in the following words:—"Should any member of the College render himself, in the judgment of the Council, *disgraceful* to the College, his name may be omitted in the printed lists of the members thereof." We quite agree with those who think that to allow the question to hinge upon the technical meaning of the word *disgraceful* would not be *expedient*: and we are also inclined to think that, as English law now stands, no Royal Medical Corporation could hope, except by methods both expensive and cumbersome, to get rid of any class of irregular practitioners, when once they have admitted them. But the Colleges of Surgeons and Physicians of Edinburgh, the Faculty of Physicians and Surgeons of Glasgow, and, more recently, the College of Physicians of London, also corporate bodies, have placed on homœopathic practitioners a mark of repudiation; and this we hope may still be done by the College of Surgeons. This course is perhaps the best which can be adopted by it, and also by the Royal Medical and Chirurgical Society, which latter institution is likewise, (unfortunately for the purity of its composition), trammelled by a charter. Voluntary associations, such as the Pathological Society, have no excuse for not adopting the course followed by kindred associations, such as the Provincial Medical and Surgical Association of England, the Medical Society of London, and the Medico-Chirurgical Society of Edinburgh; by all of whom resolutions have been unanimously passed declaring the public profession of homœopathy to be a disqualification for membership. The language in which the Edinburgh Society express their rule is brief and remarkably well chosen: viz., "That the public profession of homœopathy shall be held to disqualify for being admitted or remaining a member of the Medico-Chirurgical Society of Edinburgh."

The present movement in the profession has obliged publishers, as well as practitioners, to take their sides. Mr. Highley, of Fleet Street, who has hitherto published a homœopathic quarterly journal, has refused any longer to do so; whereas Mr. Renshaw, of the Strand, still finds it his interest to publish a scurrilous weekly paper, the aims of which do not seem to be so much the explanation and defence of homœopathy, as the laudation of Dr. Henderson, and the vituperation of the members of the "allopathic body", as it designates the medical profession. Both publishers, perhaps, adopt respectively their different courses merely from motives of trade policy; but still the fact of the separation of medical and homœopathic publishing is very important. As every author can select his publisher; and as every publisher can select his author; it will henceforth be easy to estimate men by the banners under which they voluntarily range themselves, and the company which they choose.

On the 16th December, the following MEMORIAL OF PROFESSOR SYME was presented to the Town Council of Edinburgh, the patrons of the University:—

- "I. That your memorialist has a direct interest in the prosperity of the Medical School of the University of Edinburgh as a source of emolument and professional character.
- "II. That the degree of M.D. is conferred by the Senatus Academicus of the University, in accordance with certain regulations enacted by them, which have received the sanction of the patrons, and are binding upon all candidates for this honour.
- "III. That these regulations enjoin attendance upon a six months' course of lectures on general pathology, which is not taught in any other school of the British dominions, and therefore must be taken in Edinburgh by every student who aspires to graduating here.
- "IV. That great doubts have been entertained as to the needfulness of such a course of lectures, which was instituted about twenty years ago by government, without the approval or knowledge of the patrons, who, at the suggestion of the medical faculty, on the first occasion of the chair being vacant, recommended the government to abolish it.
- "V. That the present professor of general pathology has, for some years past, publicly professed the practice of homœopathy, which is entirely opposed to, and inconsistent with, the principles which he and his colleagues of the medical faculty have been appointed to teach.
- "VI. That homœopathy being regarded by the medical profession of Great Britain as a delusion so manifest and mischievous, that it should render unfit for being met in consultation any one professing it, the Medico-Chirurgical Society of Edinburgh, which comprehends, with few exceptions, all the physicians and surgeons of this city, have expelled the professor of general pathology from their body.
- "VII. That compulsory attendance upon a course of such questionable utility, and conducted by a professor so regarded by the profession, must constitute a serious obstacle to medical graduation in Edinburgh; in proof of which it may be mentioned, that while, during the last six years, the number of medical students attending lectures in the University has greatly increased, the number of degrees annually conferred has sustained a no less remarkable diminution.
- "VIII. That the existence of a homœopathic professor in the medical faculty has been eagerly seized upon by interested enemies of this school, to excite distrust in the public mind as to the general soundness of instruction in the University of Edinburgh, with the effect, as it can be proved, of preventing students from being sent here for their education, and of throwing discredit upon all the medical professors.
- "IX. That the medical faculty, immediately upon becoming aware of the homœopathic perversion of their colleague, took measures for removing him from the chair of clinical medicine, which he occupied jointly with some other members of their body, and over the appointment to which they possess a complete control, and that he accordingly ceased to exercise this portion of his academic duties.
- "X. That neither the medical faculty nor any other body, except the patrons of the university, who possess the power of dismissal as well as appointment, can interfere with the professorship of general pathology.
- "XI. That the professor was appointed by the patrons to hold his office "*ad vitam aut culpam*";—that is, until death, resignation, or the commission of a fault sufficiently serious to warrant deposition.
- "XII. That as there can be no greater fault committed by a professor than deserting the established principles of his profession, and openly maintaining others directly opposed to those which he and his colleagues were appointed to teach, the patrons have at present a clear right to depose the professor of general pathology.

“XIII. That if any doubt should be entertained as to this being the case, the Royal Colleges of Physicians and Surgeons could at once remove it by the expression of their opinion.

“XIV. That the memorialist, therefore, humbly prays that the honourable patrons will take the circumstances into their consideration, and declare the chair of general pathology vacant.

“And your memorialist will ever pray,

“JAMES SYME.

“Edinburgh, December 8, 1851.”

We do not expect any result from this memorial ; except the good which must flow from the publication of a protest from such a quarter. If English bishops cannot, without enormous delays and outlays, get rid of heretical curates, it is not likely that the Edinburgh Town Council will be able more easily to get rid of heretical professors. The judicious and conciliatory observations of the Lord Provost, in proposing that Mr. Syme's memorial should be “remitted to the College Committee”, are well deserving of the consideration of the Medical Faculty ; and they greatly encourage us to hope, that, ere another session commences, attendance upon the prelections of the heretical Professor Henderson shall no longer be compulsory upon candidates for a degree in medicine from Edinburgh University,—a school which, notwithstanding its forced constitution, is now so nobly and so successfully vindicating its claim to its ancient and honourable characteristics—progress and orthodoxy.

The following are some of the remarks of the Lord Provost in the speech to which reference has just been made :—

“The matter to which Mr. Syme's memorial related, was of considerable importance to the University, and was exciting much attention in all the medical schools of the kingdom. He had looked into the history of this chair, with a view to ascertain whether the Council could have interfered, supposing it was expedient to do so ; and it seemed to him quite clear that the Council had *no power* to interfere. When the Crown instituted the chair of pathology, it was on condition that the occupier of it should teach the general doctrines relating to the structural and functional derangements of the human body. Now the only *culpa* that could attach to Professor Henderson, was, that he did not teach such doctrines ; but this was not the allegation of Professor Syme, but that Dr. Henderson was heretical in certain medical tenets. If they proceeded, as Professor Syme suggested, to depose Professor Henderson from the chair of pathology, he would apply to the Court of Session, where the question would come to be : Did he, or did he not, act up to the terms of his commission—to teach the doctrines relating to the structural and functional derangements of the human body ? It was said that this was a great hardship, because the relatives of students thought that the teaching in the University was tainted by the doctrines of homeopathy, and because students themselves felt a great unwillingness to attend the pathology class. If it was so, there was a very simple remedy. Let the professors agree to the regulations adopted by the Town Council, that students, in qualifying for medical degrees, should be allowed, in respect to attendance at one-third of the classes, to take their teaching at the extramural schools in Edinburgh, as was now allowed with regard to London and Dublin. If the professors would consent to this, and withdraw the action which had gone against them in the Court of Session the other day, instead of appealing it to the House of Lords—if they would consent to do this, and join issue with the Town-Council, they had the remedy in their own hand, not only against Professor Henderson, but against any professor who might be unable or unwilling to discharge the duties that devolved upon him. If they were to do this, they would not only remove the special grievance complained of by Professor Syme, but any similar grievance that might arise in times to come. He was in hopes that the professors in the question at issue between them and the Town-Council, with reference to the regulations for the granting of medical degrees, would yet come to some amicable understanding, without rendering necessary any further expenditure of money in

law expenses. The professors ought to make some concession ; and, if they were to do so, by proposing say to accept a *fourth*, instead of a *third*, of the prescribed course of study of medicine, taken in Edinburgh, and without the walls of the University, he was certain that the Council would be prepared to meet them in a friendly spirit."

The arrangement referred to, involves difficulties we believe ; but we are inclined to think that they might all be surmounted were the Edinburgh Extramural Teachers, the two Colleges, the University, and the Town-Council—bodies whose interests are identical—to consult together, and agree on some scheme more or less in accordance with the suggestions of the Lord Provost,¹ who is admitted on all sides to be a shrewd citizen, and a man who is well skilled in municipal matters.

MEDICAL MUSEUMS. The famous toxicologist, PROFESSOR ORFILA, ex-dean of the Medical Faculty of Paris, has recently returned from visiting the chief medical museums of Germany. He had previously explored those of Italy, Spain, and England. The palm of superiority he awards to France ; though he admits that in some things the French museums are excelled by those of London and other places. In comparative anatomy, the museum of our College of Surgeons, and the Berlin museum of normal anatomy, take the foremost rank. The collection of skeletons contained in the latter is unrivalled, both for the number and beauty of the preparations. *L'Union Médicale* of 11th December, devotes a *feuilleton* to Orfila's notes on the German museums.

PREISSNITZ. This enthusiastic and probably honest empiric has paid the debt of nature, at the age of 52, after an illness of some duration ; during which he consistently resisted the solicitations of his friends to take medical advice, and insisted upon continuing to rely upon his own system. On the morning of the 26th November, he rose at an early hour : but soon afterwards he complained of the cold, and ordered a large wood fire to be made, at which he tried to warm himself. About four in the afternoon, he requested to be carried to bed ; and upon being laid down, he expired. The nature of his disease is not fully explained ; but it would appear that he had been affected with dropsy of the chest. The circumstances attending the death of Preissnitz point out (as thousands of cases have done before), the dangers of unlimited reliance in hydropathy, which certainly may cure some diseases, but which, when trusted to indiscriminately in all, becomes one of the most destructive forms of modern quackery.

THE LONDON MEDICAL GAZETTE, after a respectable career of twenty-four years, has ceased to exist as an independent publication. The editor, in his last number—that bearing this day's date—takes his leave of the profession ; and that in a grave, self-gratulatory, but rather uncomfortable style. He says :—

"With the present number we close the forty-eighth volume of the *London Medical Gazette* ; and from this date the journal will cease to appear as an independent publication. . . .

"The first number of the *London Medical Gazette* was published on the 8th December, 1827 : it has therefore had a career of twenty-four years, and we believe we are not assuming too much in asserting that no medical periodical has done more to advance the science and practice of medicine, or to inspire medical men with a kindly feeling towards each other, and with a charitable regard to each other's opinions and practice, than the journal which is now brought to a conclusion.

"In the address published in the first number of the *Medical Gazette*, the following passage occurs :—'In the composition of our paper, we shall endeavour to make our readers acquainted with all that is going on, whether scientifically interesting or practically useful, in medicine, surgery, and the collateral sciences.' We may fairly appeal to the respectable class of sub-

¹ The present Lord Provost is Mr. Duncan Maclaren.

scribers who have supported this journal from its commencement, whether we have not acted up to the principle involved in this announcement. The improvement of professional knowledge has been our chief aim; and in this, if we are to judge by the numerous popular and valuable courses of lectures and papers which have at different periods appeared in our pages, we have certainly succeeded. The lectures of Dr. Watson and Dr. Pereira, published in the *Medical Gazette*,—not to mention numerous other courses of great value,—have formed the basis of publications which have deservedly obtained for their respective authors a world-wide celebrity.

“It is not our intention to enter into any comparison of this with other medical journals: let those who wish to seek the elements requisite for success or failure in English medical journalism compare them, and let each man form his own judgment. We shall only remark, without intending anything uncharitable to our weekly contemporaries, or disrespectful to the large section of professional men who have uniformly given to them their support,—that in some instances success in periodical literature may be purchased too dearly. It is a question of opinion whether a medical journal is working out its proper objects by allowing the publication of personal attacks from anonymous sources, often based, as they are, upon exaggerated, interested, or incorrect statements, and containing unjust charges and allegations which the writers would be ashamed to make, if they were compelled to attach their names to them. We admit that such articles have a spirited effect, and certainly take away the imputation of tameness from any journal which regularly devotes a portion of its pages to them: they give to the periodical a saleable value, and add to the list of subscribers. Such articles may, with a few exceptions, be approved by those who do not happen to be the victims of them; but the approbation,—as indicated by the success of a journal,—with which this practice is received by the profession, shows, in the words of our address, written a quarter of a century ago, how difficult it is ‘to excite the attention of mankind without gratifying some of the worst passions’. We shall look in vain for the success of such a style of weekly journalism out of England. Let our readers take up any one number of Casper’s *Wochenschrift*, published at Berlin; of the *Oesterreichische Medicinische Wochenschrift*, published at Vienna; or the *Gazette Médicale*, *L’Union Médicale*, or *Gazette des Hôpitaux*, published in Paris; and he will there find that these extensively-circulated periodicals are entirely filled with papers and reports ‘scientifically interesting, or practically useful, in medicine, surgery, and the collateral sciences’. He will look in vain for the ‘lion’s mouth’, in which an anonymous accuser will be allowed to make, under editorial protection, charges against a brother practitioner which he cannot substantiate.

“We might say more on this subject, but our space warns us to bring these remarks to a close. Our readers are aware that the *Medical Gazette* will be henceforth incorporated with the *Medical Times*; and we are assured by the respectable publisher of that periodical, that every effort will be made, so to conduct the new journal as to secure the approbation and support of the contributors to the *Medical Gazette*. With this assurance, and with the belief that there is a sincere desire on the part of the proprietors of the *Medical Times* to introduce the principles of the *Medical Gazette* into the *Medical Times*, we recommend our subscribers and contributors to transfer that support which they have, for twenty-four years, so kindly and liberally extended to ourselves.”

Whatever may be the future career of the *New Medical Times*, we can honestly say, that, apart from the benefit which the LONDON JOURNAL OF MEDICINE is likely to derive from the withdrawal of the *Gazette*, we believe that Mr. Churchill has conferred a benefit on the reading members of the profession by reducing the number of our periodicals.

We earnestly trust that the index to the *Medical Gazette*, some time ago projected, will now be executed and published, as it would form a truly valuable acquisition to the student of medical literature.

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ORIGINAL COMMUNICATIONS.

A CASE OF TUBERCULOUS DISEASE OF THE UTERUS AND OVARIA; AND A CASE OF POLYPUS OF THE UTERUS.

By W. TYLER SMITH, M.D., Physician-Accoucheur to St. Mary's Hospital.

DIFFICULTIES in the Diagnosis of Uterine Disease Complicated with Tumours, are constantly met with in practice; and no better method of diminishing these difficulties at present exists, than the comparison of the symptoms and physical signs in cases similar in their nature, and their contrast in cases of dissimilar character. In the two following cases, entirely dissimilar in their nature and terminations, it will be seen that some of the symptoms were most unlike; while there were others which resembled each other sufficiently to show the great care required in the examination and diagnosis of this class of maladies.

The first case is interesting, inasmuch as it presents an instance of the rare localisation of tubercle in the uterus, and the still more rare example of its deposition in the ovaria. Rokitsansky even states that he has never seen an instance of ovarian tubercle. The account of this case, and the autopsy, are chiefly taken from the notes of Mr. J. W. Trotter, one of the resident medical officers of St. Mary's Hospital.

I. CASE OF TUBERCULOUS DISEASE OF THE UTERUS AND OVARIA.

Lydia O., aged 35, was admitted June 13th, 1851, into the Victoria Ward of St. Mary's Hospital. The subject of the present case had been a domestic servant for the last three years. Previously to this, she had travelled three years as the companion to a lady. For the last nine years she had been a widow, her husband having died of phthisis two years after marriage. Until within the last five months, her place of residence had been the country, and her circumstances, as regards air, food, etc., had been most favourable to health. Her parents were both dead; they died of phthisis, and her father had suffered from fistula in ano. Out of a numerous family of brothers and sisters, only

the patient herself and a married sister survive: all the rest have been carried off by phthisis. These particulars were, however, only ascertained from the surviving sister, when the patient herself became dangerously ill.

Three months before her admission into the hospital, she suffered unusual pain at the catamenial period. The discharge was very profuse, black, and offensive, continuing for a fortnight. To arrest the flow, ice was applied to the abdomen, and astringents were given internally. From this attack she slowly recovered to a considerable extent. A fortnight ago, she had what she called a bilious attack. After this, she saw the physician-accoucheur of one of the London hospitals, who pronounced her to be suffering from *retroversio uteri*, and from that only. Previously to her admission, I had seen her once with my friend Mr. Walter Byant.

On admission, she was pale and exsanguineous, but cheerful, and expecting to go out in a short time, as she was engaged to be married. She was free from pain, but passed sleepless nights, suffering great pain at the catamenial periods, which latterly had occurred once a fortnight. Three weeks had now passed over without an appearance.

On examining externally, a tumour of considerable size was found in the hypogastric region. On examining *per vaginam*, a tumour, about the size of an egg, somewhat painful to the touch, was felt in the posterior part of the vagina, encroaching on the rectum. In front of this, the os and cervix uteri were felt, and the tumour appeared to move with the uterus. The cervix was considerably elongated, but otherwise, the os was perfectly healthy in colour and smoothness. The body of the uterus was larger than natural. Between the tumour felt posteriorly and the os and cervix uteri, there was a deep groove; but it was difficult to pronounce whether the tumour was the fundus uteri bent downwards, or whether it was uterine or ovarian, and attached to the posterior surface of the uterus. I endeavoured to introduce a small gum elastic bougie, so as to ascertain the direction of the cavity of the fundus, but neither the bougie nor the uterine sound could be introduced beyond the cavity of the cervix by gentle pressure. I then bent the bougie in the direction of the tumour, but it could not be made to enter it, the cervix being evidently contracted to an unusual degree.

There had been no swelling of the legs, nor difficulty of micturition. The pulse was 120, weak, small, and rendered quicker by any excitement. The tongue was clean, but slightly red at the tip, and the lips were parched.

On the 22nd of June, she was worse than she had previously been. The night before, she slept badly, having been kept awake by a severe pain, which extended from the loins down to the calf of the left leg. There is a slight coloured discharge from the vagina, but it is the time for the catamenia. She frequently feels as if about to faint; complains of uneasiness and pain in the right iliac fossa.

On the 24th, the flow of the catamenia ceased; but, on the 26th, the secretion returned, and came in gushes. This had generally occurred at the periods since the beginning of her illness. On the 29th, the discharge again disappeared. The day afterwards, she had a slight fainting fit, and was a little griped and purged. From this time, watery, and sometimes fetid discharges took place from the vagina,

with occasional diarrhœa, until the 19th of July, when she had an attack of peritonitis, which was chiefly confined to the right iliac region. She had before this frequently complained of pain in this situation.

As the uterus was certainly increased in volume, this, with the irregular hæmorrhages at the catamenial periods, and the non-sanguineous discharge present, without any sign of disease of the os uteri, in the intervals, seemed to me to point to the existence of polypus, tumour, or some other disease of the uterine cavity, and I felt desirous of ascertaining, if possible, the actual condition of the interior of the uterus. With this view I had introduced, on the 11th of July, a small elongated sponge-tent; and, on the 14th, a second of larger size. By this means I was enabled to pass the finger about an inch into the uterus, but no polypus or tumour could be detected in this situation. The direction of the uterine cavity was found to be nearly natural.

On the 23rd, dulness on percussion was very evident about two inches and a half from the anterior superior spinous process of the ilium, towards the linea alba. Shiverings had several times been observed. The urine was now found to be decidedly alkaline; its specific gravity was 1.014, and quantities of triple phosphates, and some oxalates, were seen under the microscope. There was evidently more fulness on the right than on the left side of the abdomen, and an obscure sense of fluctuation was felt in the enlarged part. The pulse had not been below 120 since the appearance of the peritonitis, and sometimes reached 140. All this time she was greatly troubled with an aphthous state of the mouth and fauces, which rendered it very difficult for her to take even liquid nourishment.

From the end of July to the 18th of August, the case progressed without material alteration, except the steady increase of debility; the urine continued decidedly alkaline, and the pulse high, and there was occasional diarrhœa and strangury. At the time of her admission, and on two or three occasions subsequently, the chest was carefully examined, but no sign of thoracic disease could be detected. On the 18th, cough was first observed, and she complained of a burning sensation in the throat and upper part of the chest. On the 20th, she expectorated purulent and deeply fetid matter for the first time. There was now found to be loud whiffing inspiration and expiration below the right clavicle, and dulness on percussion over the same spot. After this, the chest symptoms rapidly progressed. She became weaker and much thinner; the urine continuing alkaline; the cough troublesome, often producing vomiting; the pulse quick; nights sleepless; tongue covered with aphthæ; vaginal discharge continuing; and, within a day or two of her death, she suffered greatly from pain and constriction across the lower part of the chest,—for all of which symptoms various remedies were used, with only temporary relief, and she died from an attack of hæmoptysis, at five o'clock P.M., August 29.

AUTOPSY. Thermometer 56. Twenty-one hours after death. General appearances. Body in second degree of emaciation; rigor mortis well marked both in upper and lower extremities. Slight flattening under the right clavicle. Fulness of the right external jugular vein. Post-mortem congestion of the more dependent parts.

Thorax. Right side. Recent adhesions of the right pleura. The lobes of the right lung were all bound together by recent adhesions.

External puckering of the apex of the right lobe, on cutting into which numerous grey, hard, semi-transparent tubercles are seen. Middle lobe non-crepitant, except at its base, and quite infiltrated with the same sort of grey tubercle; it sank in water. Lower lobe also non-crepitant; and at one inch and a half from the diaphragmatic, and one-third of an inch from the posterior, surfaces, there was a cavity of about the size of a walnut, with a clot of blood occupying its centre: there was tubercular infiltration of the remaining portion.

Left side. Bridle-like adhesions between the costal and pulmonary pleuræ. Puckering at the apex of the left lobe to a greater extent than in the right. On cutting into it, some of the grey and other tubercles were found to be softening: the rest of the lobe was generally healthy. Lower lobe healthy and crepitant, except at the upper part, where there is a small collection of tuberculous matter.

Heart. Small, and very firmly contracted (post-mortem); valves, etc. apparently healthy. Quite empty of blood.

Kidneys. Both healthy.

Pancreas. Firm and healthy.

Spleen. Large and soft; filled with blood.

Liver. This viscus was enormously enlarged.

Stomach and intestines. Were found to be quite healthy on their mucous surfaces, except at the caput cæcum coli, where there was a small ulcerated spot.

Bladder. The walls were of the natural thickness, and the mucous tunic appeared healthy, except that it was extremely red, and injected with blood, the injection taking an arborescent appearance.

Peritoneum. There were recently-formed adhesions between the parietal surface of the peritoneum and that covering the small intestines. Those on the left side were easily torn through; but on the right, at a point corresponding to the lower margin of the liver, and an inch to the right of the umbilicus, there were very firm adhesions, on breaking through which the finger passed into a cavity bounded above by the lower margin of the liver, below by the transverse colon, and anteriorly by the peritoneum. On tracing onwards, the cavity was found to occupy the whole of the right lumbar region, and then to dip over the brim into the pelvis, with the whole of which region it had communications. It was filled with purulent offensive matter, and the peritoneum bounding it anteriorly had tubercular matter deposited on its surface.

Uterus and Ovaria. The uterus was of large size. On cutting into the cavity of the fundus, the mucous surface was found to be disorganised and covered with a shreddy pulpy-looking membrane, which was evidently the uterine mucous membrane in a state of tuberculous disorganisation. This extended to the whole of the triangular cavity of the fundus. The cervix, and the mucous membrane lining the cervical cavity, were perfectly healthy. The substance of the parietes of the uterus was also in a healthy condition. The left ovary was not found in the normal position. It lay deep in the pelvis, behind the fundus uteri. It was of large size, but it was so firmly adherent that it was broken up by the force necessary to remove it. It consisted for the most part of tuberculous and purulent matter, without any traces of normal structure of the ovary. The right ovary was in its natural

position; it was in much the same condition as the left, but less advanced towards softening. It was larger than natural, but not nearly so large as the right ovary. No direct connexion could be traced between the uterine and the ovarian disease, or between the uterus and ovaria, and the large peritoneal abscess.

REMARKS. The symptoms and physical signs, however puzzling during the progress of the case, and particularly at its commencement, require little comment when seen by the light of the post-mortem appearances. It is to be regretted that a microscopical examination of the discharges from the uterus was not made, as this might at once have revealed the nature of the tuberculous affection. The hypogastric fulness at the time of her admission depended probably on tuberculous deposition in the peritoneum, which afterwards softened. The tumour behind the uterus, and which had been mistaken for the fundus, and might readily have been so by the most experienced practitioner, was evidently the left ovary enlarged by the deposition of tubercle, and adhering to the posterior surface of the uterus. The hæmorrhage from the uterine cavity, in the early stage of the disease, no doubt depended upon the tuberculous disease of the mucous membrane. The time when the extensive peritoneal suppuration took place was marked by the alkalinity of the urine, and the alkaline urine in turn caused vesical irritation, the marks of which were found after death.

II. CASE OF POLYPUS OF THE UTERUS.

On the 17th of April, I was consulted by an unmarried lady, aged 27, who complained of dysmenorrhœal and leucorrhœal symptoms. She had been ill for about eight years, during which time the catamenia had been profuse and attended by great pain, leucorrhœa being very frequent and sometimes profuse in the intervals. In the early part of her illness, there had been great irritability of the bladder and meatus urinarius. During the three months before her visit to me, her health had given way greatly; she was unable to walk without pain, her appetite and digestion were impaired, her complexion had become pale and bloodless, and she suffered from almost constant pain in the lower part of the back.

On making a digital examination, I found the os uteri perfectly closed; it was not tender to the touch, its surface was perfectly smooth and regular, and nothing appeared to exist of a nature to call for specular examination. The body of the uterus was felt to be voluminous and weighty: but, from the abdomen being full and rounded, it could not be felt above the pubis. As the os uteri was closed, and as the flow of blood from the uterus had always occurred at the catamenial periods, I did not at the time suspect polypus, but considered the case to be one of inflammatory hypertrophy of the uterus. I prescribed an astringent injection to check the leucorrhœa, and ordered the bichloride of mercury internally.

On the 7th of June, I was requested to visit Miss — in the country. She had had an alarming hæmorrhage from the vagina a few days before, which had been arrested with great difficulty, and left her in a very weak and nervous condition. It occurred this time also at a catamenial period, and on examination, the os uteri was perfectly closed; the size of the uterus remained the same as at the

former examination. The pain during the hæmorrhage had been excruciating. In consultation with Mr. Litchfield of Twickenham, who attended Miss —, the probability of there being a uterine tumour was discussed, but no satisfactory conclusion could be arrived at. The acetate of lead with morphia was prescribed, and the necessary means were agreed upon in case the hæmorrhage should recur.

In the night of June 14th, I was again hastily summoned to Miss —. The day before, she had been seized with violent pain and flooding, which gave great alarm to her relatives. She lost on this occasion a large quantity of blood, and was at once reduced to a state of the greatest debility. The pain was so intense that she could only be kept in bed with difficulty. Mr. Litchfield had been sent for, and in addition to other measures, gave a dose of the ethereal tincture of ergot, with a view to check the hæmorrhage. The medicine had this effect, but it aggravated the pain greatly. When I arrived she had been taking grain doses of morphia at intervals of two or three hours, the hæmorrhage had abated, and the pain had remitted under the influence of the morphia for some hours.

On passing the finger into the vagina, the cause of all the mischief was at once evident. The cavity of the vagina was occupied by a large polypus; but it was of such a size that the os uteri could not then be reached. Its root was also felt to be of large size. It was evident that the ergot had fortunately, by bringing on a miniature labour, caused the sudden expulsion of the polypus from the uterine cavity; which, otherwise, would probably have remained many weeks before it had made its appearance externally, to the great risk of the patient's life, as, only a few days before, the dilatation of the os uteri had not even commenced. The patient and her friends were much tranquillised by the discovery which had been made, and it was resolved, at an early period, to remove the polypus by ligature.

On the 17th, the tumour could be felt within an inch and a half of the os externum, protruding like the bag of membranes, only more solid; the leucorrhœal discharge was profuse. In the afternoon of this day there was a very slight return of the hæmorrhage, but without pain; after which, the white discharge continued. Owing to the descent of the polypus, the os uteri could now be reached. It was open to the extent of half-a-crown, this extent being a measure of the size of the stalk of the polypus, which was attached to the fundus uteri.

It was decided to apply the ligature on the 19th. Before the application was performed, the rectum and bladder were emptied. We used the double canula of Niessen and Gooch, with the windlass of Laundy, for tightening the ligature from day to day; the ligature itself was the strongest ligature-cord which could be procured. The patient had never been examined, except digitally, and the hymen remained, though the ostium vaginæ was unusually distensible for the virgin state. There was, indeed, the same relaxation of the walls of the vagina which is frequently observed in cases of abortion, occupying two or three days for the completion of the process; and we had determined, if possible, not to destroy the hymen. The patient was placed on her back, at the edge of the bed, the feet resting on two chairs, and the ligature being adjusted on the canula, the two tubes of the instrument,

held closely together, were introduced at the perineal outlet of the vagina, and passed behind the tumour to the upper and posterior part of that canal. The two tubes were now held at their extremities, one in each hand, and being slowly separated at the upper points, were carried easily round the root of the polypus, and made to meet again in the anterior part of the vagina, in front of the polypus. The two tubes being held firmly together, and the ligature drawn moderately tight, the finger was passed into the vagina to ascertain that the ligature had passed round the stalk of the tumour, and that it did not include any portion of the os or cervix uteri. This being done, the apparatus for fixing the tubes was slid up along them and secured, when the ligature was tightened by the windlass until the patient began to complain of pain. A few further turns were made beyond this point, in order to obtain the death of the polypus as speedily as possible, and then the windlass was a little relaxed again. The windlass was now fastened, and left projecting from the anterior part of the vagina, care being taken to secure the patient from being hurt when changing her position, and to prevent any disarrangement of the instrument. In about ten minutes from the commencement of the operation, the patient was again in bed.

In the operation for ligaturing polypus uteri, the patient is generally directed to be placed on her left side; but lying on her back is certainly the most favourable position for the operator. The two tubes containing the ligatures are usually introduced at the side of the polypus, and then one of them is passed round the whole circumference of the tumour until it is brought in apposition with its fellow. It is, however, difficult, if the tubes are introduced in the shallower part of the vagina, to pass one of them round the deeper posterior portion of this canal, when it is filled by a large polypus. The plan I adopted possesses manifold advantages. The tubes were introduced to the greatest depth at the first step of the operation, and in passing them round they had to be withdrawn somewhat, in consequence of the diminished depth of the pelvis anteriorly. The instrument was fastened at the anterior part of the vagina, the situation in which the shortest possible length of the instrument remains in the passage. If the instrument be allowed to remain at the side of the vagina, or in the posterior part of the canal, a greater length is necessarily left in the vagina, and more irritation ensues. No disturbance of the bladder or pain in the vagina occurred in the subsequent management of the present case.¹

¹ On referring to my case-book, I find, that a few days before the present operation, I removed, with a pair of blunt pointed forceps, a vesicular polypus, of the size of a small pea, from the external surface of the os uteri of a lady, who had been drained by unremitting hæmorrhage for many months. In this case, the catamenia were irregular, not occurring except at intervals of many weeks, but the sanguineous discharge was incessant. Every kind of astringent and styptic, internal and external, had been resorted to in vain. On bringing the os uteri within the field of the speculum, and wiping the surface, a small vesicular mass was seen, with the blood distinctly oozing from it. The blood seemed to filter through the tissue at this spot. The vesicular mass was very small, and I have little doubt that it was nothing more than one of the villi found in this situation in a healthy uterus, enlarged and increased in vascularity. From the time of its removal, no hæmorrhage whatever occurred; and, as the patient regained her

The patient remained the first day or two after the operation extremely weak, and only able to take very small quantities of nourishment. During her illness of many years, her appetite had always been capricious, and now it was more so than ever. The ligature was tightened by turning the windlass daily. Infusion of chamomile was injected frequently, and a weak solution of the chloride of zinc was tried, but this caused so much pain that it was not repeated. The rapidity of the death of the polypus was no doubt heightened by the excessive heat of the weather; and the smell produced was excessively disagreeable to the patient and her friends, in spite of everything which could be done locally and in the air of the apartment to obviate it. On the 22nd, while tightening the ligature, to my infinite chagrin, it snapped. I however fastened it as well as possible, and as I could then obtain nothing suitable for a ligature, I resolved to leave matters as they were until the morrow; and then to pass another ligature if it should be necessary. But when I was prepared to do this, I found, on withdrawing the instrument, that the polypus was so nearly cut through, that by twisting I was enabled to separate it; after which I slowly drew it through the os externum. This was on the fourth day after passing the ligature. The polypus weighed one pound and three quarters; but it was so soft and elongated, that it passed through the distensible hymen without lacerating it. The vagina was now carefully washed out, and injections ordered frequently, to bring away the discharge which might issue from the stump of the polypus. On examining afterwards, the os uteri was found patulous, but capable of contracting upon the finger—just as it would be in an abortion at three or four months.

After the exit of the tumour, the patient suffered much greater distress than in the interval during which the ligature was applied. There was great depression, the pulse being very quick and extremely feeble, the weak action of the heart alternating with palpitation. Sickness was constantly present, nourishment taken by spoonfuls was rejected, and the stomach behaved still more irritably towards medicines. The insomnia was distressing, and continuous. After trying everything that could be devised to allay the gastric irritability, but in vain, we determined to let the stomach rest entirely, and to support the patient two or three days by injections of soup and beef-tea. This was done, and with excellent effect.

The discharge continued profuse for several days; the fever was at its highest on the 25th, when the fetor was intolerable. At that time, also, the depression, and the irritability of the stomach and heart, was such as to make us entertain the most serious fears for the life of our patient. Indeed, on more than one occasion, she seemed to be actually dying. I have no doubt that the discharge was absorbed, and that it

health, the catamenia returned. Not many days after the occurrence of these two cases, a uterus was shown to me as being of unusual size, taken from a patient who had died of disease of the heart. On cutting into the cavity of the fundus, two black masses were observed, which, at the first glance, were taken to be coagula from their colour, but they were in reality two polypoid tumours, attached by pedicles to the fundus uteri. On the outside of the same uterus, a small fatty tumour was observed. This had probably been a fibrous growth, which had degenerated into fatty matter. The patient had been drained by hæmorrhage, but the existence of polypus had not been suspected.

had poisoned the blood; at least, we could account for the symptoms in no other way. The most severe distress of all was caused by the retention of the discharges in a peculiar way. Injections were ordered at stated times, to clear out the vagina; and it was observed that very little discharge made its appearance. Besides the gastric and cardiac irritation, she now suffered from tympanitis and pain in the epigastrium, with dry hot skin, and a pulse at 130. On making an examination at this time, I found the os externum resisting and painful; it was closed by sphincteric contraction, and the vagina beyond it was largely distended with fluid, consisting of the accumulated discharge and injections. On introducing the finger, the contents of the vagina pumped out with loud explosive noise, and the patient was instantly relieved from the more urgent of her sufferings.

The misery caused by the fetor of the discharge, may be conveyed by the words of a note I received at one of my summonses from her sister, a lady who watched her with the greatest affection. "My sister says she should be better satisfied if I were to tell you myself what her sensations are. The medicine she took last night made her vomit, and she felt then as if what she threw up tasted of the discharge; and afterwards the bed-clothes, herself, those who came near her, the food she tried to eat, all seemed impregnated with it to a horrible degree: and when she fell asleep for a few minutes, on waking, her mouth seemed full of it." I have spoken of her as being poisoned by the discharge and the fetor, and the term is scarcely too strong. Her blood was certainly impregnated, either by the smell or by the absorption of the liquid portion of the discharges. Three distinct series of depuratory efforts appeared to be thus produced. The patient was first affected with fetid and profuse perspirations; then with diarrhœa; and some time after, she had a crop of furuncular suppurations, which I attributed to the same source.

On the 27th, she was still very ill, had slept only one hour the night before, and complained of much pain in the right iliac fossa. With respect to medicine, morphia, in pill, was retained better than anything else prescribed for the sickness; but it produced other discomforts, by locking up the liver. Hydrocyanic acid, ether, champagne creasote, ice, and various other remedies, were tried without much good result. The pain in the iliac region was relieved by a sinapism; it was evidently dependant upon the looseness of the bowels.

The vaginal discharge slowly diminished, and after this the most distressing symptoms subsided. I continued to see her daily until the 30th, when she had so far recovered, that from that time I only saw her at intervals. The irritability of stomach subsided; she took food, and at first vegetable, and then ferruginous tonics. In the middle of July, she had so far recovered as to be able to take a short ride daily; and at the end of two months, she went to the sea-side. It was here that the furuncular eruption came on. She was still, however, quite unable to walk more than a few steps. I saw her before her departure for the sea, when she was complaining of fulness of the abdomen, and a sense of uneasiness in the pelvis. The patient herself was afraid of dropsy, or a return of her disorder. On examination, there was just the feeling we find two or three weeks after labour, but no swelling of the feet or ankles, and no fluid to be detected in the abdomen. The

urine was of proper specific gravity; there was no albumen; the quantity secreted in the twenty-four hours was natural. The uterus was found to be still larger than natural, and in a state of partial prolapsus. The latter condition was the cause of her being unable to walk. On her return from the sea-side in September, as the sense of bearing down, and difficulty in walking or standing for any length of time continued, with some amount of leucorrhœa, the cold water douche, with a tannic acid injection, were prescribed. These measures produced her complete recovery; the catamenia appeared naturally, and she was able to take proper exercise, becoming, in fact, "quite well."

ON VENEREAL AFFECTIONS OF THE EAR.

By WILLIAM HARVEY, Esq., Surgeon to the Royal Infirmary for Diseases of the Ear.

THE ear is subject to both the gonorrhœal and syphilitic forms of the venereal disease: in the present paper I shall confine my remarks to gonorrhœal otitis and otorrhœa.

As far as my reading has informed me, this disease of the ear has entirely escaped the notice of British surgical writers; I am not aware that even a single case is on record either in our systematic works on surgery, or in any of the English medical journals; and I am, on this account, the more anxious to call the attention of the profession to what I have found to be a most formidable and destructive disease.

Every surgeon is familiar with an obstinate form of infantile otorrhœa which occurs shortly after birth, not unfrequently destroying the organ, and producing, as a consequence, both deafness and dumbness for life. Is the lining membrane of the external meatus, like that of the conjunctiva, susceptible of the contagion of gonorrhœal matter, and the specific inflammation which constitutes that disease? This very natural inference has for many years suggested itself to me, in reflecting upon these most miserable cases. My attention was, however, newly awakened to this possibility by the following case, which occurred in my Dispensary practice in the spring of 1849.

J. B., a baker's man, aged twenty-three, had been confined to his bed for ten days with gonorrhœal inflammation of the urethra and swelled testicle. The account he gave of himself was, that during his confinement in bed, he had been seized with intense itching in his ear, accompanied with paroxysms of pain; and shortly afterwards, there issued a profuse yellowish discharge from the meatus auditorius externus. The pain in some measure subsiding shortly after the discharge had set in, he delayed speaking of it to his medical attendant for two days. Upon examining the ear at this period, I found the auricle red and swollen, a profuse discharge from the meatus, and the mucous membrane red and thickened. Having cleansed the parts from the discharge, for the purpose of more accurately examining the condition of the membrum tympani, I found this membrane already

perforated, and fast disappearing under the progressive ulceration. As the inflammation was still in progress, the patient was bled freely from the arm, and leeches repeatedly; and the ear was cleansed frequently with an astringent lotion. Although the patient was rigidly watched, and every means adopted calculated to check the progress of the morbid action, nothing appeared to have any control, until the disease had expended itself on the soft structures, and the organ was completely destroyed. I was at first at a loss to account for the violence of the symptoms in this case. It certainly did not follow the ordinary course of catarrhal otitis; the intensity and persistence of the inflammatory action, the colour and quantity of the discharge, and other peculiar symptoms of this case, clearly referred it to the category of gonorrhœal affections. Without adopting the vague and unsatisfactory doctrine of metastasis, it will, I think, be perfectly clear that the gonorrhœal matter might easily have found its way to the meatus of the ear. Let us suppose the man's finger to have been soiled with the urethral discharge, and that on occasion of an intense degree of itching in the external ear, (the very first symptom complained of by the patient), he had thoughtlessly and with some violence thrust his finger into the meatus, possibly abrading the membrane with his nail; all the symptoms are then most readily explicable. Active inflammation, we are aware, rapidly sets in when gonorrhœal matter accidentally comes in contact with the conjunctival membrane of the eye, and unless the patient is seen shortly after the seizure, and promptly treated, the eye is destroyed. And though, from the difference of structure existing in the conjunctiva and the meatus, the analogy is not perfect, still we do not know that the epithelial lining of the meatus is proof against the specific contagion.

With regard to the etiology of those gonorrhœal affections which occur in parts or structures remote from the usual locality of the primary affection, much difference of opinion has been entertained by surgical writers of the highest eminence. The possibility of the ophthalmic form of the disease being produced by direct contact with the virus has perhaps been denied by no surgeon, but in those numerous cases where the evidence of such contact is *nil* or doubtful, the theory of gonorrhœal inflammation by metastasis has been broached by Richter, Scarpa, Beer, Lincke, and other foreign surgeons of repute. Mr. Lawrence, perhaps more rationally, hesitates to admit that metastasis can exist; for this very obvious reason, that in the majority of these cases the urethral discharge is not either suspended or diminished during the very height of the ophthalmic symptoms.

“In a great proportion, however, of these gonorrhœal ophthalmiæ, we cannot trace the disease of the eye to the application of infectious matter, either from the same or another individual. The eyes are said to suffer by metastasis; it is stated that the gonorrhœal discharge is suppressed, and that the inflammation of the eye occurs in consequence of that suppression. Such is the representation of Richter, Scarpa, and Beer, who accordingly consider the restoration of the discharge from the urethra a principal indication in the treatment of the disease. In none of the cases, which have come under my own observation, has the urethral discharge been stopped; although it has generally been lessened, it has continued in some with little diminution. On the

other hand, the sudden stoppage of gonorrhœa, when effected by surgical treatment, is not followed by inflammation of the eyes. Since, then, gonorrhœal ophthalmia may occur, while the discharge from the urethra continues, and since it does not take place when that discharge is stopped, we cannot admit that the affection of the eye owes its origin to the cessation of disease in the urethra. I am inclined to refer its occurrence to the state of the constitution, without being able to point out in what that state consists; and to regard it as a pathological phenomenon analogous to those successive attacks of different parts which are observed in gout and rheumatism. The two other forms of ophthalmic inflammation, which take place in conjunction with gonorrhœa, show themselves only in rheumatic subjects, and generally in connexion with other arthritic sufferings; and the difference between one of these, and the affection now under consideration, is only in degree. This view of the subject may throw some light on the circumstance that, though direct infection operates equally on both sexes, the gonorrhœal ophthalmia, said to originate in metastasis, seems to be confined to the male; I have never seen it in the female, and Beer, in the passage last quoted, says, that he has observed it only in young, robust, and plethoric men. The state of constitution, whether hereditary or acquired, which leads to gout and similar affections, is much less common in women than in men; and will hardly be found at all among those young and previously healthy females, who are the principal subjects of gonorrhœa. Again, the morbid influences which are experienced and exerted by the male urethra, are different from those of the vagina.”¹

In the unfortunate case with which I have introduced this subject, the urethral discharge was not suppressed during the destructive progress of the disease in the ear, consequently we cannot conceive that metastasis could have taken place.

The acute and observant Linche, has given the most full and satisfactory account of this disease occurring in the meatus which I have yet met with; and perhaps I cannot better conclude the subject than by translating from his very useful work, *Handbuch der theoretischen und practischen Ohrenheilkunde*, the following observations.

“This very rare form of inflammation, caused by the gonorrhœal poison, has its seat chiefly in the system of the mucous membrane, and is distinguished from the catarrhal inflammation of the ears partly by the absence of exacerbations and remissions; symptoms which appear especially in the incipient stages of the latter. Another criterion is the particular nature of the excreted discharge. The symptoms are the following:—if the aural gonorrhœa is confined to the meatus auditorius, and if it develops itself slowly, there arises a troublesome itching and burning, and a redness which uniformly spreads over the dermis of the meatus auditorius, without being accompanied by a considerable swelling, which symptoms are soon followed by an increased mucous discharge. If the disease has developed itself quickly, the symptoms of inflammation will be more vehement. The itching and burning which the patient felt at first, is soon followed by intense pains of a shooting character, which embrace the whole hemisphere of

¹ LAWRENCE on the Venereal Affection of the Eye.

the head, the lining membrane of the meatus becomes much swollen' and at the same time the external ear, especially the auricle, is reddened and swollen as in erysipelas. The patient is feverish, the pulse becomes hard and full, the tongue is loaded, and he complains of a buzzing and singing in the ear, and the hearing is impaired. As soon as the excretion of discharge has commenced in the meatus auditorius, the vehement pain will be a little allayed. The discharge has at first a whitish yellow colour, and is not very thick, but soon increases in quantity and colour, and exudes in large drops of a yellowish green colour, of a specific odour, from the meatus auditorius, which has become quite tumid. The discharge flows over the ear and the adjacent parts of the neck, whereby those parts become sore and covered with small pustules. After some time, the discharge becomes thinner, and of a more sanious character; the swelling of the meatus auditorius decreases, the channel becomes more free: and if examined after a previous cleaning, the skin will be found softened, and appears like velvet and of a sarcomatous (fungoid) appearance; the tympanum inflamed, perforated, and more or less destroyed. At times here and there ulcerations are to be met with, which, however, soon heal up. In some cases, a sort of chronic otorrhœa remains behind, which lasts at times for months, or, as Desanellis has observed, for years. If the process of gonorrhœal inflammation of the meatus auditorius has been very rapid, or if circumstances be very unfavourable; that is, if the gonorrhœa has been completely suppressed, or if the patient has committed some excess, the middle portion of the ear will also be affected, and in this case all the symptoms of *otitis interna* will make their appearance. The pains of the ear become vehement and pungent, occupy the whole of that side of the head down to the neck, the teeth, and the occiput, and are even accompanied by delirium. If the pains have reached the highest point, a suppurative process takes place in the tympanum; this will be perforated, and is often destroyed. If the disease be not now stayed, and if the ulceration proceed to the osseous tissue, then all those ulcerative and vegetative processes (sloughing and polypi) are to be apprehended, which have been mentioned in the description of the *otitis interna phlegmonosa*. Plisson states that at times, conjointly with the puriform discharge from the ear, a thick puriform matter is also issuing from the nostrils.

“The gonorrhœal inflammation of the ear may possibly arise from two causes: 1. From a metastasis of the gonorrhœa; or, II. *From an infection of the ear through the gonorrhœal pus*. Metastasis arises, if an urethral or vaginal gonorrhœa is suppressed, either entirely or partially, by taking cold, or by the injudicious use of general baths or laxative remedies, or the too early use of so-called suppressing remedies, especially balsamic, astringent, or dessicative. Lentin mentions a case where, after suppressed fluor albus, a secretion was observed in the meatus auditorius; and Reil says that he has found a defluxion in the meatus, which was quite similar to leucorrhœa, and at times alternated with it. In these cases, the inflammation of the ears may develop itself a short time after the cessation or decrease of the gonorrhœa, especially if that has not been completely suppressed. *The infection of the gonorrhœal virus may be caused by the patient*

touching the ears after soiling his fingers with the virus, by the application of a cloth soiled with the virus, etc. It may be even the case, that the meatus of *a child, passing through the gonorrhœal vagina, in the act of parturition*, may become infected. In this case, generally speaking, the ear only will be affected. In many instances, the transplanting of the gonorrhœal virus from the vagina or urethra cannot be traced at all, so that the origin of the malady cannot be accurately ascertained. It seems, after all, that for the development of the aural gonorrhœa, a certain disposition towards inflammatory disease of the ear is required."

As far as the prognosis is concerned, it may be called good, when the blenorrhœal inflammation is circumscribed to the meatus auditorius, when it does not arise from metastasis, but by inoculation of the gonorrhœal virus, and when complicated with other diseases: for the skin of the meatus auditorius does not possess enough of the nature of a mucous membrane, for a blenorrhœa in its most vehement form to develope itself. Much more disastrous for the organ of hearing is this disease, when it attacks the middle portion, as in this case, even in the most favourable contingency, no perfect cure nor restitution of the hearing faculty is to be anticipated.

2, Soho Square, January 1852.

ON THE RELATIONS OF UTERINE TO CONSTITUTIONAL DISORDER.

By F. W. MACKENZIE, M.D., Physician to the Paddington Free Dispensary for the Diseases of Women and Children, Fellow of University College, etc.

(Continued from p. 1103 of Volume for 1851.)

THE following cases are brought forward in illustration of the observations which I have made, on the subject of the relations which subsist between uterine and constitutional disorder. In those observations I have endeavoured to show how extensive and important is the influence which is exercised, by various morbid states of the constitution, upon the uterine organs; how these operate, not only in originating, but in maintaining a state of uterine irritation and disorder, which is immediately productive of various uterine symptoms; and how necessary it is to investigate and appreciate fully this influence in the treatment of such diseases.

The subjoined cases will, it is believed, affirm fully the correctness of these views, whether regarded with reference to their history, or the results of treatment. They are submitted to the profession in the hope that, whether they are considered to support the opinions which have been expressed, or to militate against them, they may be useful in elucidating the pathology and clinical history of uterine diseases, and directing attention to the necessity and importance of constitutional treatment, in their general management.

FIRST GROUP:—CASES OF UTERINE DISEASE MORE ESPECIALLY ATTENDED BY LEUCORRHOEAL DISCHARGES.

CASE. Mrs. M—s, aged 27, consulted me on the 7th April, 1848, suffering from severe uterine symptoms, and profuse leucorrhœa. The history of her case was the following. She had been out of health for many years, indeed ever since her marriage, which took place seven years ago. She had throughout this period suffered much from uneasiness in the uterus, pain in the lower part of the back, and in the hips, thighs, and pelvis generally. She had often severe bearing down pains, and a constant and sometimes profuse leucorrhœal discharge. Menstruation had been very irregular during the whole of this period. Before she had experienced any uterine symptoms, her tongue had been habitually yellow and clammy on awaking in the morning; her appetite uncertain and capricious, and she felt a constant craving for food, but was unable to eat any regular meals. The bowels were for the most part confined, and she suffered much from flatulency. From the commencement of these symptoms she had been weak, nervous, and irritable, always awoke unrefreshed of a morning, and was restless and faint at night. She was incapable of doing much, was easily fatigued, and the heart's action and respiration were hurried by the least exertion. Her feet and hands were generally cold and clammy. Prior to the commencement of these symptoms, she had suffered much from mental anxiety and trouble, and these appeared to have been their immediate cause. About eleven months after her marriage she gave birth to a healthy child; eighteen months subsequently to this she had another, but she has not had a living child since. She had, however, been twice prematurely delivered of a still-born child,—the one at seven, the other at eight months of utero-gestation. Subsequently to these, and about six months ago, she had a miscarriage. Her symptoms on consulting me were the following. She was suffering from severe uterine uneasiness almost persistently; she had profuse and constant leucorrhœa and irregular menstruation, which was more scanty than is natural; she complained of severe pelvic pains, extending to the back, hips, and thighs, with a dragging sensation or forcing down of the uterus. Her digestive organs were much disordered, the tongue was coated, and I learnt that it was habitually unpleasant on awaking in the morning. The appetite was bad, the alvine discharges scanty and unhealthy, and the abdomen generally flatulent. She remarked that whatever increased the disorder of her digestive organs always aggravated the uterine symptoms. She was evidently anæmiated, and there was a loud continuous bruit in the neck. The spine was not apparently tender, at least on pressure being made over the dress. The following treatment was recommended. She was directed to take an alterative every second night at bed-time, and the following morning a mild aperient. The citrate of iron was given in full doses thrice daily after each principal meal, the tepid hip-bath to be used every night, and astringent injections. She continued this treatment from the 7th April to the 2nd May, and then reported that she considered herself to be perfectly cured. She had then no uterine pain or leucorrhœa, or any pelvic uneasiness; her general health had been entirely restored; the appetite was good, and the digestive organs healthy. I am enabled to add, that the cure in this case has

been permanent, and that she is now (December 1851) in the possession of the best health, and has entire freedom from all uterine derangement. I may also add, that since the treatment was discontinued, she has given birth to a healthy living child, and that menstruation has subsequently been regular.

CASE. Mrs. C. G—m was seen by me May 10th, 1850, and was then suffering from retention of urine, which had been immediately brought on by a long walk, during which she was unable to relieve her bladder. From the history of the case, it was clear that this was remotely a consequence of long-continued uterine irritation, for which she had consulted many medical men, and submitted to various modes of treatment, but without any benefit. The principal circumstances of her case will be found in the following narrative. She was 27 years of age, and had been married rather more than three years. At the period of her marriage, as well as antecedently, she had not been in good health. She had felt very weak, had been incapable of much exertion, and suffered much from breathlessness and palpitation of the heart. She then, and previously, menstruated irregularly, with much pain and bearing down. Menstruation recurred about every three weeks, and the secretion was scanty and pale. Prior to these symptoms, however, her appetite had been bad, her tongue unpleasant on awaking in the morning, and her digestive organs were generally disordered. Five months after her marriage, she began to suffer from increased irregularity, and for about a period of five months she had an almost constant sanguineous discharge from the uterus. The tongue was throughout unpleasant and clammy, and the stomach and digestive organs much deranged; there was also great debility, and much nervous prostration. Under these circumstances she consulted a neighbouring practitioner, by whom she was attended for a period of five months; but in the end she was in no respect better. His treatment appeared to have consisted mainly in the employment of styptic medicines, and other measures, for the purpose of checking the uterine hæmorrhage. Nothing was done for the constitutional disorder, and the treatment was altogether unsuccessful. Subsequently to this she placed herself under the care of a physician, who, after making a vaginal examination, told her that she had ulcerative disease of the womb, and on his recommendation she submitted to a course of cauterisation of the cervix uteri, with other treatment. From this, also, she received no benefit, and the metrorrhagia continued as profusely as ever. Soon after the cauterisation was commenced, she was seized with sharp cutting pains in the region of the bladder, and retention of urine came on, which from time to time had recurred ever since. On one occasion it continued for several days, and the use of the catheter was daily required. From such a history, it was impossible to doubt that the symptom for which I was consulted was mainly spasmodic; and I therefore declined to use the catheter, although requested by her to do so. I advised her to have recourse to a warm hip-bath, and to take ten drops of the muriated tincture of iron every half hour, until she was enabled to relieve her bladder, which she accomplished in about two hours. I was subsequently consulted on the subject of her uterine complaint, which may be thus described. She was suffering from various uneasy uterine sensations, leucorrhœa, and irregular

menstruation. She had a furred tongue, and her digestive organs were very much disordered. She was weak and very much anæmiated; and these forms of constitutional disorder had preceded and attended the uterine derangement throughout its whole course. There was then evidently with the uterine affection a disordered state of the stomach and digestive organs, and an impoverished condition of the blood; and the history showed that these were not simply the consequences or the concomitants of the uterine malady, but its antecedents, if not its positive causes. It was, moreover, hopeless to expect healthy action in an organ having such extensive sympathies as the uterus, whilst these forms of constitutional disorder continued. Acting upon these considerations, the treatment recommended was almost entirely constitutional. An alterative was given at bed-time every second night, until the disordered state of the tongue and digestive organs was corrected. The bowels were regulated by mild aperients, the diet was carefully attended to, and a full dose of the citrate of iron was ordered thrice daily. She was advised to take regular exercise, and to use the tepid hip-bath every night at bed-time. Upon this simple treatment her health rapidly improved; and the uterine symptoms concurrently disappeared, without any specific or local treatment whatever. The menorrhagia ceased as well as the leucorrhœa. She has had no return of retention of urine, or of any uterine uneasiness or disorder during a period of eighteen months, and has gained flesh, strength, and blood. She has moreover enjoyed better health than she has had for many years past.

CASE. Mrs. Sarah W—s, aged 45, applied at the Paddington Free Dispensary, July 2, 1850. She was suffering from severe pain in the uterus and back, had frequent bearing-down pains, and general uneasiness in the pelvis, together with a profuse leucorrhœal discharge. The uterus was examined, but neither the cervix nor the os uteri appeared to be diseased. Her general health, however, was bad. She was weak, nervous, and anæmiated; her tongue was habitually unpleasant in the morning, her bowels confined, and her appetite impaired. It appeared that she had been suffering from uterine symptoms for many years, during which time she had had a great deal of anxiety, and her general health had been throughout much disturbed. She was married at seventeen, and shortly afterwards had a very severe labour, since which she had never been free from some kind of uterine uneasiness. She had consulted a variety of medical men, but without receiving much benefit. About five years ago she placed herself under the care of a physician, who told her that she had “ulcers on the neck of the womb”; and that her ill health, as well as uterine symptoms, depended upon these. On his recommendation, she submitted to a course of cauterisation; and, for about three months, she had the nitrate of silver applied to the cervix nearly every week. At the end of this time, her health was not materially improved, and she remained under the care of the same physician for nearly two years longer. She was still, at the end of this period, by no means cured of her complaints, and she had ever since continued to suffer from uterine uneasiness and very indifferent health. The leucorrhœal discharge was not in the least lessened by the treatment adopted. She said that she had felt the effect of the cauterisation ever since, and that she had

rather declined than otherwise in health. Finding that her digestive organs were in a very disordered state, that the blood was very much impoverished, and that these circumstances evidently kept up a very irritable state of the nervous system generally, with which the uterine organs seemed especially to participate, I recommended treatment of a constitutional character alone, which had especial reference to the state of the digestive organs, the blood, and the nervous system generally. She was ordered to take an alterative every second night, with an occasional aperient in the morning, until the tongue became clean; and the ammonio-citrate of iron, in rather large doses, during the day, in combination with bismuth and the sesquicarbonate of ammonia. No local treatment was recommended, beyond the occasional use of a weak alum injection. Upon this plan her general health improved, and, concurrently with this, the uterine symptoms passed away. On the 16th October, I made the following entry respecting her case:—She states that she has no pain in the uterus to speak of, no leucorrhœal discharge, and only a slight occasional pain in the back; that her appetite is better than she ever remembers it to have been; and that she is as well as she can possibly expect to be, considering that she has a good deal of anxiety.

CASE. Mary S—e, aged 40, married, applied, October 1st, at the Paddington Free Dispensary, suffering from profuse leucorrhœa, pain in the lower part of the back, uneasiness in the groins and hips, much pain and tension of the left iliac region, and constipated bowels. These symptoms began about eighteen months ago, and she attributed them to catching cold. The first bad effects she suffered from this, were much disorder of the stomach and bowels, a bad tongue, and an unpleasant taste in the morning. These symptoms were followed by nervous irritability and disturbance; and, subsequently, the uterine symptoms declared themselves. Shortly after their accession, she placed herself under the care of a medical gentleman, and was attended by him for rather more than four months; but, at the end of this time, she was not materially better. The leucorrhœal discharge continued profusely, and she was given to understand by him, that this could not be altogether removed. He had carefully examined the state of the uterus, and had applied nitrate of silver twice a week to the cervix for about a month. She continued, however, to suffer more or less from uterine symptoms, as well as general ill health, up to the end of the following September, when she began to suffer, in addition, from severe pain and tension in the left iliac region. On the 1st October, she came under my care. She was then suffering generally from disorder of the stomach and alimentary canal, but the descending colon appeared to be especially at fault. There was extreme pain in the left iliac region, and a very tense and flatulent condition of this part of the intestine. There was also much pelvic uneasiness, whilst, from the constipated state of the bowels, it appeared to be almost certain that the colon was loaded with feculent matter. The patient was weak and anæmiated; there was marked spinal irritation about the lumbar region; and she was suffering from profuse leucorrhœal discharge, and bearing down of the uterus. On making a digital examination, the cervix appeared to be somewhat more voluminous, and the os uteri more open, than in health; and, on introducing the speculum,

the mucous membrane was found to be slightly congested and dark-coloured, around the os uteri. I touched this portion lightly with the nitrate of silver, and ordered her treatment which was calculated to remedy, conjointly, the state of the blood, the spinal irritation, and the disordered state of the digestive organs and the colon. She was directed to rub the lumbar portion of the spine, as well as the left flank, night and morning, with ten drops of croton oil, until pustulation should be produced; to take an alterative every second night, and a mixture containing the citrate of iron, with bismuth, rhubarb, and ammonia, three times a day. She continued this treatment from the 1st to the 27th October, rather more than three weeks; and during that period, the congested portion of the mucous membrane of the cervix was twice touched with the nitrate of silver, and she occasionally used a weak alum injection. She had on the 28th Oct. no leucorrhœa; no pain either in the uterus, side, or back; the tongue was clean; her appetite was good, and her bowels regular; she had no tenderness over the spine, and considered herself to be perfectly cured.

CASE. Sarah C—n, aged 25, applied, August 1st, at the Paddington Free Dispensary. She was suffering from profuse leucorrhœa, dysmenorrhœa, and general weakness and ill health. These symptoms had come on about twelve months before: she attributed them to over-fatigue and want of rest,—the result of her having had to nurse an invalid lady, who required her services nearly all night for several nights together. The consequence of this, was, that her appetite failed, the tongue became very much furred, and the digestive organs, generally, very unhealthy. Subsequently, leucorrhœa came on, and afterwards, dysmenorrhœa. From that time she became nervous, hysterical, and weak. About five months ago she married, and since then had been getting much worse. The leucorrhœa had increased, as well as the dysmenorrhœa; there was marked tenderness over the lower part of the spine, and she was evidently weak, dyspeptic, and anæmic. She was ordered to rub the spine, night and morning, with the tartar emetic ointment, until pustulation took place; to take an alterative at bedtime, occasionally, when the tongue was unpleasant on awaking; and a tonic mixture during the day,—containing the sulphates of iron and quinine. Upon this plan she was perfectly cured; by the 30th she had lost the leucorrhœa, and had menstruated without pain. The treatment of the latter symptom will be hereafter noticed.

CASE. H. T—r, aged 25 (single), applied to me, April 20th, for advice, suffering from extreme weakness, loss of appetite, and general ill health. She had much leucorrhœa, pains in the womb, small of the back, hips, and thighs. She menstruated regularly, but with much pain; her tongue was habitually unpleasant in the morning; her bowels were confined, and the urine was scanty and thick; she was anæmiated, and had a loud venous murmur in the neck. She had been ill three years, and for the greater part of this time had been under medical treatment; but had not, she said, received any benefit from it. She was ordered to take an aloetic pill, occasionally, before dinner, and the citrate of iron after meals. A week after this, not being any better, the leucorrhœa continuing to be profuse, and the lower part of the spine very tender upon pressure, the citrate of iron was omitted, and the muriated tincture was given instead, together with

the dilute muriatic acid and the liq. hyd. bichlor. She was also directed to rub the tender part of the spine night and morning with the tartar emetic ointment. She continued this treatment for a fortnight; and at the end of this time was, in every respect, better; her tongue was clean, her appetite good, her bowels regular; and she had no leucorrhœa or uterine uneasiness. From this time she was directed to take only the citrate of iron, after meals. On the 26th May, rather more than a month from the date of her first consulting me, she reported herself perfectly well in every respect. Nearly three years have elapsed since this patient came under my care, and I am told that she has ever since enjoyed uninterrupted good health, and that the cure has been permanent.

CASE. Mary I—ll, aged 24, applied at the Paddington Free Dispensary, February 25, 1851, suffering from pain in the left breast, with much uneasiness in the uterus, and bearing down. At times, this uneasiness was very considerable; it was generally increased by walking or standing, and relieved, but not entirely removed, by lying down. She had also much pain and uneasiness in the lower part of the back, as well as in the pelvis generally. She had had one child prematurely; the presentation was transverse, and she suffered very much in the birth. Three years had elapsed, and ever since she had had some uterine pain, which was worse sometimes than at others. She had menstruated regularly, but suffered much from leucorrhœa. Her digestive organs were very much disordered; her tongue was furred; and the stomach was extremely irritable. She was also weak and anæmiated. She was directed to take an alterative every second night at bedtime, to regulate the bowels by the mildest aperients, and to take ten grains of the citrate of iron three times a-day, with ten of bismuth, and five minims of the medicinal hydrocyanic acid. On the 20th of March, having continued this treatment from the 25th of February, she reported that the uterine uneasiness had entirely left her, that the digestive organs were tranquil and healthy, and that she felt altogether very well.

CASE. Mary M—ss, aged 44, married, applied, in July 1850, at the Paddington Free Dispensary, suffering from much pain in the back and loins, extending down to the uterus, a bearing down of this organ, and considerable leucorrhœa. She was altogether out of health, anæmiated, and dyspeptic. Her tongue was habitually dry and unpleasant, her appetite bad, she felt pain at the epigastrium after eating, her bowels were flatulent and extremely costive, and she had well marked tenderness over the lower part of the spine. She had suffered from these symptoms many years; and three years previously had placed herself under a physician, by whom she was attended for a period of ten months. After making a vaginal examination, he informed her that she had an ulcer on the neck of the womb, about the size of the tip of his finger, and that upon this her ill-health, as well uterine symptoms, depended. On his recommendation, she submitted to a course of cauterisation. At first, caustic was applied twice a week; afterwards less frequently, and then only occasionally. She was ordered, at the same time, to use injections. This treatment was continued for about ten months, together with various internal remedies; but, at the end of this period, she was far from being well, and, up to the present time, her health has been very indifferent. Occa-

sionally, the uneasiness of the womb had been very severe; as well as the back-ache and leucorrhœa. Finding that her general health was very bad; that her stomach and digestive organs were more or less constantly disordered; that she was very weak, nervous, and anæmiated; and that she was suffering from spinal irritation, I directed such treatment as was calculated to correct these disorders, with, in addition, the occasional use of alum-water injections. She was ordered an alterative every second night; a tonic, containing the tincture of the muriate of iron, acidulated with the dilute muriatic acid; and to keep up for a time mild counter-irritation over the tender part of the spine. She continued this treatment rather more than two months; and, at the end of three, she reported that she was better in health than she had been for many years, and, in fact, convalescent. Her tongue was clean, and her bowels regular; she had no uterine uneasiness or back-ache, and very little leucorrhœa. She felt strong, and equal to any ordinary exertion.

CASE. Abi H—t, aged 38, applied at the Paddington Free Dispensary, September 24, suffering severely from leucorrhœa. She was married, and had five children; and, during the last three or four years, had suffered much from pain in the back, weakness, and bearing down of the uterus, with much leucorrhœa. Her general health was very bad; she was very much depressed, weak, nervous, and anæmiated. Her tongue was habitually dry and unpleasant in the morning, and she awoke without being refreshed. Her appetite was bad; and she was incapable of much fatigue. She was ordered alteratives and tonics. On the 28th of October she was perfectly well; the leucorrhœa was gone; the tongue was clean; and the appetite good; she had no back-ache; and felt stronger and better than for many years.

CASE. Emma T—d, aged 23, applied September the 15th, suffering much from leucorrhœa, with pain in the uterus and back. Menstruation was regular, but attended with much pain. She was generally weak, nervous, and dyspeptic. She was also very anæmic, and had a loud venous bruit in the neck. Her tongue was habitually dry and unpleasant of a morning. She was ordered the cold hip-bath every morning; an alterative at bedtime occasionally; and the muriated tincture of iron with dilute muriatic acid, with small doses of the liquor hydrargyri bichloridi three times daily. On the 24th of October, she was perfectly well; had no leucorrhœa or uterine uneasiness; her digestive organs were healthy; and she felt strong and well.

CASE. Miss T—g consulted me May 3rd, 1849. She had been ill for three years, and had been for a long time previously under medical treatment, without having been materially benefited by it. She complained of extreme languor and debility, and incapacity of undergoing any fatigue. She was pale, and very much anæmiated; the tongue was furred, and had been so for some time; her bowels were very irregular, being sometimes costive, and sometimes relaxed; she had no appetite, and suffered much from uneasiness at the epigastrium after eating. She had also had, for some time, a profuse leucorrhœal discharge, with pain and dragging at the back. The menstrual functions were irregularly performed, and generally with pain. There was a loud venous murmur in the neck, and the pulse was weak and small. The treatment entirely consisted in correcting the disordered state of

the digestive organs, and improving the condition of the blood. She took an alterative every second or third night, and as much of a warm rhubarb mixture every morning as would insure the regular action of the bowels. And, as the tongue got cleaner, she was ordered the citrate of iron, with salines. By the end of the month she was perfectly well, the appetite was good, the bowels were regular, and the leucorrhœa entirely absent. She has since enjoyed very good health, and has had no return of any of her former symptoms.

CASE. Elizabeth E—e, aged 27, applied for advice on Oct. 10th, suffering from leucorrhœa, uterine uneasiness, with pain and dragging from the back. Her general health was, and had been prior to the manifestation of these symptoms, very bad. She had been weak, nervous, and hysterical; her appetite was bad; her tongue and mouth were dry, furred, and unpleasant. She had generally menstruated regularly; but, at the time of her last period, menstruation did not take place. She was suffering profusely from leucorrhœa, and had much pain in the uterine region, which was increased by walking or standing, but relieved on lying down. For these symptoms, I ordered her an alterative every second night, and a mild aperient on the following morning. After four days, she was ordered the citrate of iron, with ammonia and salines, in rather large doses, after each principal meal. On the 17th, she reported herself to be better; and, on the 26th, to be quite well. Her tongue and digestive organs were healthy; and she had no leucorrhœa or uterine uneasiness.

CASE. Hannah B—e, aged 30, applied for advice in March 1850. She had been suffering more or less, for many years, from leucorrhœa, which had continued throughout the entire month, with pains in the lower part of the back and loins, in the pelvis generally, and more especially in the region of the uterus. Her menstruation had been regular, but always attended with much pain; her digestive organs were much disordered; the tongue furred in the morning; she awoke tired and unrefreshed; was throughout the day weary, languid, and weak; her appetite was bad; she suffered much from flatulency, pain in the bowels, and constipation. The left colon appeared to be the seat of much uneasiness. There was pain and tension in the left iliac region, and evidently much flatulence. She was at first ordered an alterative every night for three nights, and a pill, consisting of equal parts of the compound extract of colocynth and compound rhubarb mass, every day for three days before dinner. A week afterwards, she was better: the tongue was cleaner, and the bowels less flatulent and more regular. The leucorrhœa, however, still continued. She was now ordered to use a cold hip-bath every night, and the muriated tincture of iron during the day, combined with the dilute muriatic acid; and, concurrently with this, to take an alterative occasionally at bedtime, with such aperient medicines as would insure the regular action of the bowels. A month after this treatment had been commenced, she stated that she was considerably better; that she had scarcely any leucorrhœa; and that her digestive organs were comparatively quite healthy.

REMARKS. These cases need not, I think, be extended; for they appear to me to be sufficient to affirm the correctness of the views

for which they have been brought forward. We observe, for instance, that in each, constitutional disorder existed antecedently to the occurrence of the uterine affection, which followed upon, or, as it were, sprung out of it; that in all there was a considerable similarity in the character of the uterine symptoms, as well as in that of the constitutional derangement; whilst likewise in all, a great mitigation, if not a complete cessation, of the uterine malady was effected through the influence of constitutional, rather than of specific treatment.

The clinical history of these cases, coupled with the results of treatment, appears to me to give a peremptory refutation to some statements which have recently been put forward on the subject of uterine diseases, and which would not only identify these cases with the existence of inflammation and ulceration of the cervix uteri, but would assert the indispensable necessity of specific topical measures for their cure. Thus we are told, that the symptoms of inflammatory ulceration of the cervix uteri are "pains in the lumbo-dorsal, ovarian, and hypogastric regions, and down the thighs, with, in some instances, difficulty of walking, and a sensation of bearing down on standing or moving, vaginal discharge, modifications of menstruation, giving rise to dysmenorrhœa, menorrhagia, or amenorrhœa, constipation or diarrhœa, and irritability of the bladder. That the general symptoms are principally dyspeptic, neuralgic, and hysterical conditions, entailing secondarily defective general nutrition, and consequent debility and anæmia." Now, it will be observed, that these are precisely the symptoms which were met with in nearly all the cases which I have related, and yet, with scarcely an exception, they were found to disappear, without any recourse to those specific measures which, we are told, are necessary for the cure of inflammation and ulceration of the uterus. Thus, it must be obvious, either that the symptoms in question do not depend upon these lesions, or that they are curable without those specific measures of treatment, which have been represented as being necessary for their removal.

But, in truth, it may be affirmed, that the symptoms above quoted, do not by any means indicate either singly, or in the aggregate, the presence of inflammatory ulceration of the cervix uteri. They are met with as the consequence of uterine *irritation* alone, which, although sometimes associated with inflammation, congestion, ulceration, and other forms of structural disease of the uterus, may nevertheless occur independently of any of these lesions, and when of a severe character, may give rise to uterine symptoms of proportionate severity. If, again, we analyse them in detail, we shall find that these are referrible to two heads, the one being local or uterine; the other, constitutional; and that neither, either singly or combined, is necessarily pathognomonic of any particular pathological condition of the uterus. Thus, the constitutional symptoms point for the most part to those derangements of the nervous system, the blood, and the digestive organs, which I have shown to *precede* rather than to *follow* upon uterine disorder; whilst the local, comprehending, for the most part, pain and various uneasy sensations in the uterine, ovarian, and lumbar regions, with irregularity of the menstrual functions, and leucorrhœal discharges, are common to a variety of functional disorders of the uterus.

Leucorrhœal discharges, I need scarcely remark, are constantly

met with, independently of any inflammatory action whatever. They may arise from mere uterine or vaginal irritation, whether induced by causes acting directly or sympathetically upon the uterine organs. They have occurred as the result of epidemic and endemic influences, and of other general causes which tend to depress and lower the vital powers. They may occur as the consequence of impaired general health, however induced; of mental emotion and uneasiness; of diseased conditions of the blood, and certain constitutional diatheses; and of irritative disorder of the digestive and other organs, sympathetically reacting upon the uterus. Whilst, as a consequence of local influences, they are met with in connexion with every possible physical and vital lesion to which the uterine organs are subject; and hence, however severe or long-continued, they cannot, in any sense or variety, be considered as pathognomonic of the existence of inflammatory ulceration, or of any form of structural disease of the uterus.

Neither can pain or uneasiness, however severe, or functional disorder of the uterus, however intense, be regarded as pathognomonic of such lesions. These symptoms are also met with in their severest forms as the sole consequence of uterine irritation, which has been known to continue for years without leading to or being attended by any perceptible alteration of the uterine tissues. This is especially observable in the disease which has been so graphically described by Dr. Gooch, under the designation of the "irritable uterus"; and we have the following strong testimony to the truth of this remark in his paper on that disease. "I took it," he says, "for chronic inflammation which would end in disorganisation; but experience, whilst it taught me that it was a very intractable disease, taught me also that it was not a disorganising one. I became familiar with its obstinacy, and less apprehensive about its result, for I know *cases which have lasted upwards of ten years, in which the structure of the uterus is as unaltered now as it was at the beginning of the disease, as far at least as can be determined by examination during life.*" I have fully verified the correctness of Dr. Gooch's description of this disease; and in a paper on the *Irritable Uterus*, published in the LONDON JOURNAL OF MEDICINE for May 1851, I have reported cases in which all the symptoms existed which have been attributed to inflammation and ulceration of the uterus, and yet were unattended by any perceptible vascular or structural change of the organ, and where the symptoms entirely disappeared under the influence of treatment which must have considerably exasperated inflammation had it existed.

In the January number of this Journal, p. 45, a gentleman, who appears to have paid much attention to the subject of uterine complaints, has taken some exception to the views which I have expressed in that paper, and to some of the cases which I have related in support of them, because, as he observes, "when he came to study them, he found in almost every instance all the symptoms of chronic inflammation and ulceration of the os uteri; and from these *symptoms* he affirms that inflammation *must have existed* notwithstanding that I could discover no evidence of it on a digital examination, and that the patients entirely recovered under the influence of constitutional treatment alone. He has criticised more especially cases VI and VII; for case IX was only reported for the sake of its clinical history, and not with any view

to the results of treatment, inasmuch as this was not undertaken. He affirms that the following symptoms, which were met with in No. VI, are conclusive as to the presence of inflammation and ulceration of the os uteri in that case, viz., "great pain, bearing down, and back-ache, increased by walking and standing; leucorrhœa, painful and frequent menstruation, prolapsus, tenderness on examination, a premature confinement eighteen months before, tongue furred, appetite bad, constipation, disorder of stomach and digestive organs, anæmia." Now with reference to this affirmation, I would observe, with all deference, that if Mr. Falloon acts upon this assumption, and concludes that inflammation and ulceration of the cervix uteri necessarily exist wherever these symptoms are met with, he will sometimes be led into very grievous mistakes, and occasionally into a very unwarrantable mode of practice. That they did not exist in the cases which he has referred to, is a point upon which I can entertain no possible doubt, whether I look to their history, the general or local symptoms by which they were denoted, or the results of treatment; and as Mr. Falloon has intimated that the treatment adopted in these cases could only have been temporarily beneficial, and that patients who have been so treated "invariably lapse back to that condition whence they started on returning to their old régime", I have felt it due to myself and to the subject under discussion, to ascertain and to publish the *present* state of health of the two patients whose cases he has animadverted upon.

Having found their addresses by means of the Dispensary books, I requested a professional friend to visit each, and to report their present state of health; and the subjoined letter, which has been obligingly sent me by the gentleman who undertook the inquiry, will perhaps be interesting, if not instructive, to Mr. Falloon, in connexion with his remarks on those cases.

MY DEAR SIR,—I have visited and made careful inquiries of Charlotte Ward and Margaret Nadauld, whose cases stand Nos. 6 and 7 in your paper on the *Irritable Uterus*, as to the nature of the malady for which you were consulted, and the results of the treatment which was adopted. I took a copy of your paper with me; and after a full inquiry, can verify the correctness of the report of each case in every particular. I am also enabled to state, on the testimony of the patients themselves, that the treatment adopted was attended with the most *decided* and *permanent* success. Both have enjoyed good health ever since, and neither has had any return of their former uterine symptoms. About six weeks after treatment Charlotte Ward became pregnant, and at the full time was delivered of a healthy child, which with its mother is doing well. Margaret Nadauld tells me that she has never been so entirely free from uterine uneasiness for the last twenty years. I am, my dear sir, very truly yours,

THOMAS MOORE.

Cambridge Street, Hyde Park, January 3, 1852.

I am at a loss to know what stronger evidence could be adduced in support of the correctness of the views which I have ventured to express in my paper on the *Irritable Uterus*, or what can more conclusively refute the assertions of those who are disposed to attribute uterine derangement so exclusively to inflammation and ulceration of

the cervix uteri, than the statements contained in this letter, coming, as it does, from an unbiassed and competent medical observer. With regard to these cases, it should be observed, that it had been positively asserted by a gentleman evidently well acquainted with the subject of uterine complaints, that inflammation and ulceration of the cervix *must* have existed, and which by implication could only have been successfully treated by local cauterisation, etc.; and yet we learn that the uterine symptoms, not only entirely, but permanently, disappeared under the influence of constitutional treatment alone.

But I should be very greatly misunderstood, if it were inferred, from anything which I have written, that I deprecated the use of the speculum, as Mr. Falloon would suppose, or that I underrated the utility and importance of topical applications in the treatment of uterine disease. I believe that there are many cases in which we can only attain a correct knowledge of the uterine malady by an ocular examination of the organ, and that there are some in which, from long continued irritation or other causes, vascular and organic changes have taken place, which can only be effectually treated by topical measures. Nevertheless, I believe that these form but a small proportion, in comparison with those in which uterine symptoms depend upon *irritation* alone, and where this has arisen from, or is dependant upon constitutional derangement. Moreover, even in those cases in which vascular or structural changes may have taken place, I believe that even such lesions, within certain limits, are corrigible by the corrective powers of the constitution, when these are properly supported by judicious treatment. Every one employed in the practice of midwifery, must be aware of the severe injury which the uterine tissues sometimes undergo in the progress of difficult and laborious parturition, and as a consequence of manual and instrumental interference; and yet it must have been remarked by such observers, that these injuries are by no means unfrequently sustained and repaired by the curative powers of the constitution alone, without being followed by any particular, or long-continued uterine derangement. Some of the cases which I have related in this part of my paper are also affirmative of the same principle; for it is more than probable that, in many, vascular disease had supervened upon irritative disorder; for some had been of many years' duration, and, as a general rule, it is found that such disorder is sooner or later followed by morbid vascular changes in the affected part. Yet these, if present, were found to yield to the corrective powers of the constitution, assisted by appropriate treatment, equally with the irritative disorder upon which they depended.

Looking, again, to what occurs in the instance of disease of other organs of the body, and considering how successful the curative powers of the constitution often are in effecting its removal, I cannot but think that too little importance has been attached to this principle of cure, by those who have advocated the frequent and almost exclusive employment of topical measures in the treatment of uterine diseases. There is scarcely an organ or tissue of the body in which inflammatory and ulcerative disease is not susceptible of being remedied by the natural efforts, either through the agency of actions spontaneously occurring in the part affected, or through the compensating influence of some other.

In the mucous cellular and cutaneous tissues this remark especially holds good; and even in the case of the pulmonary organs, which of all others might be supposed to be the least susceptible of such actions, it has been surmised, upon very strong grounds, that not only is vascular disease thus removable, but that even extensive solutions of continuity and cavities have been healed by the efforts of the constitution, when these have been properly supported. Why then should it be assumed that the uterine organs are incapable of the same reparative actions? I do not, as I have observed, wish to disparage the utility of topical treatment *within certain limits*; but I affirm, that it is an error to suppose that uterine derangement, which has sprung, as it were, out of a disordered state of the general health, or which is perpetuated by it, can be successfully treated by local measures, whilst its constitutional origin or cause is overlooked. Some, indeed, of the cases which I have reported prove the truth of this remark; for in several, local cauterisation, etc., had been assiduously employed for a lengthened period, by very competent practitioners,—and yet with but little success. Of this, at least, I am assured, that in proportion as the correct pathology of uterine disease is better understood,—in proportion as its relations to constitutional causes are more fully appreciated, and the earlier indications of uterine disorder more carefully investigated, will our treatment of them be more successful; and thus also will the necessity for those specific measures be done away with, which it must be equally painful for the practitioner to employ, as for the patient to submit to.

Chester Place, Hyde Park Gardens, January 1852.

(*To be continued.*)

CASE OF SWALLOWING OF ARTIFICIAL TEETH AND METALLIC PLATE, TERMINATING FAVOURABLY;

WITH OBSERVATIONS ON SIMILAR ACCIDENTS.

By S. SCOTT ALISON, M.D., Licentiate of the Royal College of Physicians of London.

EXTRAORDINARY or rare cases are always interesting, and have ever been deemed worthy of record. They are often, however, more curious than useful. But the case which I propose now to relate, is not only remarkable, but is capable of being made the subject of useful practical considerations. It affords striking evidence of the tolerance of hard and heavy and sharp bodies in the alimentary canal, and of the powers which that tube, delicately organised though it be, possesses to free itself from such dangerous contents.

CASE. On the 12th of March 1850, Mrs. B., of Hampstead, called upon me, to take my advice respecting an accident which had occurred to her. She was tall, and, though thin, of large make, forty years of age, and of good general health. She informed me that she had been

in the habit of wearing a plate of gold fitted to the upper jaw, made to hold several teeth, but at the time of the accident containing only three. She states that one night, in the first week of January preceding, she had, during sleep, swallowed the gold plate, together with the affixed teeth. She immediately consulted a gentleman in the neighbourhood; but from that time she had seen nothing of them. The day after this accident, the food which she swallowed caused a sensation as if it was arrested low down in the gullet. In a few days, she experienced a sense of uneasiness in the epigastric region, towards its right and lower boundary, over the pylorus and the duodenum. This had continued now a period of about two months. She did not complain of any acute pain, and no aggravation of her uneasiness was produced after eating. There were no symptoms of any general disturbance. The patient was told to keep her mind easy, and to take plain, soft, and liquid food. Oatmeal porridge or stirabout was recommended. Irritating and indigestible food was interdicted. In the way of medicine, castor-oil was ordered; and, with a view to the lubrication of the stomach and bowels, Castile soap was exhibited in the form of pill, combined with extract of hyoscyamus, which, unlike opium, besides relaxing the parts and allaying uneasiness, I have found to promote, rather than reduce, the amount of secretions from the alimentary canal.

I saw nothing more of the patient till April the 2nd. She no longer complained of uneasiness in the region of the pylorus. After taking the pills of soap and hyoscyamus, she was soon relieved; and she now experienced no pain whatever. The pills were again ordered, and the same diet recommended; and gum arabic was prescribed to be taken in her tea.

On the 21st of June, the patient again called, and reported to me that she had attended to all my directions, and had experienced no inconvenience from the presence of the teeth and plate in her bowels, until the 10th of May, when she felt some uneasiness at the anus, as if she "required physic", and that when at stool there was found a difficulty, as if she was constipated; and at length the foreign body, of which she was not thinking, came away without further trouble. Since that day, no pain or uneasiness had been felt, and she was in as good health as if the plate and teeth had never left the mouth. The patient brought the plate and teeth with her. It consisted of a metallic plate resembling gold, and three artificial teeth. The whole body was of semicircular form, particularly uneven, sharp, and rugged at its edges, exceedingly calculated to lacerate tender structures; those portions of the plate from which the absent teeth had dropped, were particularly sharp and rugged: at one extremity of the plate there projected a hook-like process, which had served to attach the plate to a tooth in the jaw. The teeth were incisors, enamel, and sharp at their edges. The length of the plate was one inch and six-eighths, independently of the hook-like process, which extended about a quarter of an inch more. The breadth of the plate was fully half an inch. But as the teeth projected forward, they added materially to that breadth, and caused this, the shortest axis, to be six-eighths of an inch. Thus we have passing down the œsophagus without material difficulty, remaining some time in the stomach, moving

along the entire course of the intestines, and finally evacuated *per anum*, with scarcely any unpleasantness, a semicircular body, which in its longest axis measured two inches, in its shortest, six-eighths of an inch, with sharp and rugged edges, and with a process singularly calculated to attach itself to the soft parts.

REMARKS. The fact is sufficiently remarkable to be worthy of record, that such a body should so have passed through the alimentary canal. It may be allowed to take its place amongst statements of a similar nature, recorded by different writers, entitled to more or less credit.

The time occupied by this body in its transit from the mouth to the other extremity of the alimentary canal, was more than four months; a fact which indicates the tolerant power of this canal, and suggests confidence for a happy issue, long after the descent of such bodies into the stomach.

The absence of symptoms of inflammation or material disturbance of the stomach, after the descent of the body into its cavity, attests in a striking manner the reluctance of that part to take on idiopathic diseased action from the presence of what, in most other parts, would almost certainly prove most injurious, and indicates in obvious characters the wise adaptation of that viscus to its important functions, almost implying, as they do, accidents of such a nature.

It is reasonable to conclude, from the uneasiness which was experienced during the two first months, in the region of the pylorus, that at that strait the body had been detained some considerable time, and was long in getting into that position most favourable for its transmission. It is obvious that the pylorus could not have permitted the body to pass with its longest axis presenting; and that, in order to accomplish its transmission, the stomach must, by an action similar to that performed by the uterus in labour acting on the foetal head, have so adjusted it as to cause the shortest axis to present, and thus convert an impracticable presentation, so to speak, into one of the greatest facility. No doubt the analogy may, with justice, be further extended; for it is not at all unlikely that, had the stomach, either spontaneously or by injudicious treatment, been urged to precipitate and violent exertions, the body might have become so impacted, as to produce most serious consequences.

After passing through the small intestines, the body (judging from the absence of pain, etc.) does not appear to have been detained in the *caput cæcum coli*, that portion of the canal in which, after death, such substances, as well as calculi, have most frequently been discovered.

The same adjustment which must have been affected at the pylorus, was beautifully executed likewise at the anus. The passage of this large, sharp, and rugged body, was effected with so much ease, that though the patient was daily suffering anxieties from its presence in the bowels, she did not, at the moment of its being discharged, suspect what was taking place. It came away with its short axis presenting, and thus obviated all the inconvenience and danger which must otherwise have been incurred. The most skilful surgeon, with the best adapted instruments, could not have done so much.

Whatever injury the mucous membrane may have sustained, no doubt was rapidly repaired.

It does not appear that any poisonous effects were induced by chemical alteration of the plate. This fact is of some interest in connexion with the recently mooted subject of poisoning by copper employed in the gold fittings of artificial teeth, particularly as the patient was not in circumstances to justify the belief that she could give a very high price for the article with which she was supplied. The plate looked like gold, and was not corroded or discoloured blue or green when I saw it; and I am inclined, so far as this fact goes, to believe that respectable dentists do not make use of plates, even for humbler patients, of a poisonous quality. No testing of the plate could be effected, as the patient was desirous of taking it with her.

With respect to the treatment, there will be found little or no novelty. It is in substance that recommended by Mr. Samuel Cooper for such accidents, in his universally-known "Surgical Dictionary", which cannot be materially improved upon. The soap and hyosciamus pill answered well, and would appear to be well adapted to such cases.

It does not appear necessary for patients similarly situated to remain quite at rest; on the other hand, the moderate exercise which was permitted to my patient, seems favourable to the progress of the dangerous body through the intestines. But in the event of pain being fixed in any part of the abdomen, and attended with vomiting or looseness, with furred or red tongue, dry skin, or heat of surface, total rest will be necessary; and should circumstances not forbid, leeches and fomentations will be useful.

Cold should be avoided, and a genial warmth of surface secured, as being favourable both to secretion and to muscular relaxation.

Stimulants, of course, except where extraordinary circumstances demand their employment, should be avoided. This, and attention to diet, will be particularly necessary during the autumn, when the mucous membrane of the alimentary canal is so prone to become disordered. Acids, and other astringents, are to be avoided in all such accidents, but particularly when the body swallowed is composed of, or contains, metals liable to form poisonous salts.

I may add, in addition to the above case, that I have, during a practice of some twenty years, met with not a few patients who have swallowed hard substances, such as buttons, single teeth, small coins, and beads, and that the results have uniformly been favourable under much the same treatment as has been indicated above.

It is a further reassuring fact when treating such cases, that we not unfrequently hear of prisoners when seized swallowing large coins in order to secrete them, without it coming to our knowledge that they suffer in consequence.

There remains only one further use to make of the case related above, and that is to warn those who wear false teeth to rid themselves of their adornment when they retire to sleep.

SOME PRACTICAL REMARKS ON GENERAL BLOOD-LETTING.

By ROBERT HUNTER SEMPLE, M.D., Medical Officer to the Parochial
Infirmity of St. Mary, Islington.

NOTWITHSTANDING the immense importance of venesection in the cure and alleviation of disease, it must be confessed that its injudicious employment in many cases almost counteracts its beneficial influence in others; and its failure on many occasions, and the positive mischief which it sometimes produces, have not unnaturally led to its general condemnation by a few well-informed and judicious practitioners, and have also afforded a handle to quacks for censuring the pursuits and practices of legitimate medicine. Every man who has seen much practice, and has reflected upon the progress and results of the cases confided to his care, must seriously revolve in his mind the evil of which he has often unintentionally been guilty, on the one hand by the employment of unseasonable depletion, and on the other by its omission in cases which urgently demanded it. There can be no doubt whatever, that a prompt and full abstraction of blood will in many cases rescue an important organ from irreparable mischief, or the patient himself from impending destruction; but, on the other hand, a full or even moderate bleeding, resorted to when too late, or in cases of peculiar idiosyncrasy, has often accelerated the progress of disease, and hurried the patient to the grave. Considering, then, the serious responsibility which the abstraction of blood by venesection involves to the practitioner, and the effects, whether good or bad, upon the life and constitution of the patient, it cannot be uninteresting to throw, from the records of personal experience, some additional light upon this somewhat trite but inexhaustible subject. It is the more important for each one to develope his views in publications like the *LONDON JOURNAL OF MEDICINE*, inasmuch as the student and the practitioner may search in vain to obtain any definite views on the advantages and disadvantages of blood-letting from books and lectures. In fact, the peculiarities of the human constitution are so numerous, the effects of locality so striking, the influence of a host of physical and moral causes on disease so various and inexplicable, that each person must draw up rules for his own guidance, not from the dogmata of this or that school, or from the dicta of this or that professor, but from the stores of his own experience, strengthened by the exercise of judgment and discretion.

In the following remarks, I offer no dogmatic opinions whatever; but convinced of the powerful influence exercised by general blood-letting over disease, I propose to make some practical observations on the subject, drawn from a rather extensive experience in a considerable public and private practice. I may state, that when I was very young, the practice of blood-letting was general among the profession, and exceedingly popular with the community; just as the stomach-pump was supposed to be indispensable in every case of poisoning, so was the lancet supposed to be necessary in almost every case of serious disease. But whether the characters of disease have changed, or whether me-

dical practitioners have begun to exercise more discrimination than formerly, it is certainly the case that blood-letting is now far less generally resorted to than at the commencement of the present century.

This change of practice is, I think, by no means to be attributed to caprice or fashion; but I am willing to believe that the type of disease has in some measure been altered, and that the present generation bears the loss of blood far less easily than their forefathers. I can also state pretty confidently that *locality* influences most materially the toleration of blood-letting, and that even the different parts of our metropolis exhibit remarkable variations in this respect. In Islington, where the situation is elevated, and the north wind and north-east wind are prevalent, I find that diseases generally assume the sthenic type, and blood-letting is generally well borne; while in the central portions of the metropolis, and in its southern, and south-western suburbs, bleeding is generally unnecessary, and even injurious. I think that the experience of practitioners would confirm this opinion, and I should be happy if these remarks were to elicit from our medical friends some statistical results upon the subject.

I propose to consider the question of blood-letting by venesection under three aspects: I. Where it is altogether improper and injurious. II. Where its employment may be superseded by other therapeutical agents. III. Where it is absolutely and imperatively necessary.

I. In the first place, I believe that blood-letting is altogether improper and injurious in the treatment of FEVER and INFLUENZA, two of the most common diseases which are brought under the notice of the practitioner. Whatever may be the essential nature of fever, it is clear that the nervous system is deeply involved in this disease, that the powers of life are profoundly shaken, and that the vascular excitement is out of all proportion to the strength of the vital powers, and is by no means an index of their energy. Hence a grievous error would be committed, if general blood-letting were resorted to merely because the impulse of the heart was considerable, and the pulse was full and strong; for, although such a measure might for a time alleviate the violence of the symptoms, the apparent improvement would soon be followed by prostration, and the patient's life be probably sacrificed. I need hardly remark that, where there is serious visceral inflammation *superadded* to the general symptoms of fever, then the lancet may be, and ought to be, used; although it is a matter of question in many cases whether local blood-letting, or the use of tartar emetic, or other medicines, may not be advantageously substituted. In dismissing the subject of blood-letting in fever in this summary manner, I think I shall be excused for making so brief an allusion to a subject so important, from the belief that my own opinions are the same as those of the majority of medical practitioners.

In the treatment of influenza, my objections to blood-letting are equally decided; this disease is certainly one of depression, and blood-letting must undoubtedly do harm. But it is the duty of the practitioner to watch most carefully for the supervention of inflammatory disease in any important organ, and if such should be found, then venesection may undoubtedly prove highly beneficial. I happened to see a very great multitude of cases of influenza when it first broke

out in this country, and on many subsequent occasions, and I never abstracted blood in any case which was free from visceral inflammation; except on one occasion, when I was called to see a policeman in the middle of the night. The pulse was so full and strong, the cough so distressing, the pain in various parts of the body so acute and agonising, that although I could detect no specific inflammation in any part, yet I drew blood; and in this exceptional case I believe I acted correctly, for the distressing symptoms were relieved, and the patient rapidly and completely recovered. It is possible in this case, that if bleeding had not been practised, some severe visceral inflammation would have ensued. I believe that my objections to bleeding in influenza are shared generally by the profession.

It is by no means difficult, in the course of practice, to bring forward cases where general bleeding has been improperly resorted to,—to the great danger of the patient, and to the aggravation of his disease. I shall confine myself to two instances of the kind, which are very striking in their character. I may mention, that I am so unwilling to lend myself to anything like professional jealousy, that I have purposely drawn my illustrations from the cases of persons living abroad, and of whose medical advisers I never had the slightest knowledge.

CASE I. In August 1848, a young French lady came to me one evening in the greatest alarm, and requested me to bleed her, as she had the same symptoms which she had before experienced in France, and for which she had been copiously bled. She complained of pain and swimming in the head, and she was in imminent fear of an attack of apoplexy, which she thought would be averted by immediate bleeding. She informed me, that when previously attacked in a similar manner, she had been bled immediately, and that the bleeding had been repeated two or three times a week, but without any relief; her pain and giddiness became worse and worse, and for three months she was confined to her bed; but eventually she became better, having been saved from apoplexy, as she supposed, by this enormous loss of blood, but having remained in a weak and exhausted condition ever since. I examined her condition; and found that the pulse was weak, the head cool, the tongue somewhat foul, the bowels rather confined, and the menstrual discharge irregular and scanty. I had no difficulty in perceiving, that the three months' illness which this young lady had suffered, was due to the treatment, and not to the disease; but I had the utmost difficulty in dissuading her from being bled. I at last prevailed upon her, however, to defer the bleeding for a short time, and prescribed for her some aloetic purgative pills, and some saline purgative medicine. The next day she was rather better, her bowels were relieved, and her head was more comfortable. She continued the medicines for some days with decided benefit; and when the uterine secretion was regulated, I prescribed the sulphate of iron in pills, and the daily use of bitter ale. She was quite astonished at this recommendation, but she nevertheless followed it, and soon became quite well, never having been confined to her bed or to her house for a single day. I have very frequently seen her since. She has had no return of her severe symptoms; and has enjoyed general good health. She has occasionally taken quinine and iron, and has never again been bled.

CASE II. When visiting at a French sea-port town, in 1847, I was requested, as a matter of curiosity, to see a poor young woman, whose deplorable state was a matter of common conversation among her friends and acquaintance. She was represented as suffering from an incurable disease of the heart, was bed-ridden, and was daily expected to die. When I saw her, she was lying in bed in the greatest state of exhaustion: her breathing was rapid; her pulse feeble; her legs swelled. The action of the heart was rapid, but there was no morbid sound, and the impulse was not increased; there was no sign of disease of the lungs. The menstrual secretion was very scanty and irregular. She was bled about once a week; and this practice had been continued for some months, but not much blood was drawn at each occasion. She was also kept on low diet. I thought that she was very ill, and that she had really been brought to the point of death by the treatment; but, without stating that such was my view of the case, I merely recommended her not to allow any more blood to be drawn, and to take some meat, and occasionally some wine. I also directed her to take some aloetic pills, with rhubarb. She improved decidedly under this treatment; and I then recommended her to take pills containing each one grain of the sulphate of iron. I subsequently learned, from my friends in France, that this girl's improvement, under the altered régime, was most rapid; she left her bed, and was soon able to walk; and the last news I had of her was, that she was married, and had a child. I confess that I was as much astonished as any one else at the result of this case; for, although I did not believe that the *disease* would have destroyed the patient, I certainly thought that she never could survive the *treatment* which had been adopted previously to my seeing her.

II. I shall now consider the cases in which, although the use of the lancet is not absolutely improper, it may yet be superseded by other therapeutical agents.

The grand object to be attained by blood-letting is, to lower the action of the heart and arteries, and thereby to relieve congestion and inflammation, either general or local. Where, again, the plastic elements of the blood are in too great abundance, as, for instance, where there is an excess of red corpuscles or of fibrine, blood-letting is undoubtedly a most powerful agent in attenuating the vital fluid, and preventing or arresting dangerous or fatal consequences. But, reserving for future consideration the cases in which blood-letting is imperatively demanded, I propose to consider, in the present section, the cases in which the loss of blood may be avoided, and the patient nevertheless restored to health. Here I should remark, that the avoidance of blood-letting very materially depends upon the period at which a patient is seen by the medical attendant; and hence a very different practice is required in the cases of persons living in ease and comfort, and in the cases of those who are compelled to gain their daily bread literally by the sweat of their brow, and who are attended in our hospitals and infirmaries, or come for relief to the union surgeon, or to the dispensary doctor. Among the former class of patients, every symptom is carefully watched, and remedial means promptly resorted to; among the latter, whether from ignorance or carelessness, or, what is still more lamentable, from the utter privation which must

accompany the abandonment of work, the unfortunate patient neglects his symptoms, and allows his disease to run on until dangerous, or even fatal, mischief has taken place. Too often does it occur to those who practise among the poor, to find that they are called in only when remedial means are too late; and the post-mortem examination reveals the destruction of vital organs by the effusion of serum, of pus, and of albumino-fibrine, which, in all human probability, might have been arrested, if remedial means had been more early resorted to. Whatever may be the doctrines of the disciples of the *expectant* method of treating disease, to say nothing of the flagrant criminality of the homœopathic system, it must be admitted by all honest practitioners, that the aphorism of the Roman poet is still strictly applicable to the treatment of disease:

“Principiis obsta: sero medicina paratur
Cum mala per longas convaluere moras.”

There is very little doubt that many remedies have the power of arresting disease at its very commencement, and of rendering unnecessary those energetic measures, which are often required in its more developed forms. The power of tartar emetic, in lowering the action of the heart, is indubitable, and, when administered early, will often cut short an inflammatory attack of the chest; and it is probable that digitalis might be employed with equal advantage in somewhat similar cases. But there is always uncertainty in the action of digitalis, owing to the different qualities possessed by different specimens of the drug.

The following remarks and cases will illustrate the views now advanced.

CASE III. In February 1851, I was called to see a young gentleman one evening, who was complaining of illness. He was about twenty-five years of age, of stout proportions, and had generally enjoyed good health. He had felt ill all the previous day, had cold shivering as the evening approached, was troubled with a hacking cough, without expectoration, pain in the side, and general uneasiness. The breathing was rapid, the pulse full, and rather hard; there was slight crepitant rhonchus on the right side, over the lower portion of the right lung. The disease was therefore quite in the incipient form. I explained to this gentleman's mother, who called me in, that her son was suffering from inflammation of the lung, but that the disease was not at present fully developed; and that there were two methods of cutting short the malady, namely, by bleeding, or by the administration of medicine. The lady had an objection to bleeding, and I therefore directed a mustard poultice to be placed over the affected side, and prescribed a mixture containing four grains of potassio-tartrate of antimony, in six ounces of fluid, and directed an ounce of it to be taken every three hours. The next morning, I found that he had been excessively sick; but the pain in the side and the cough were better, and the pulse was reduced in force and frequency. This plan was pursued with the greatest success; the tartar-emetic was continued; the patient was kept in bed, and low diet was enjoined. All the symptoms soon subsided: a little cough remained, which was treated with syrup of squills and syrup of poppies; and in less than a fortnight the patient was quite well, and able to return to his business.

In this case, the disease was evidently arrested in the first stage by the influence of the tartar-emetic, which acted upon the same principle as a bleeding, by giving an immediate shock to the system, by lowering the action of the heart and arteries, and thereby removing the highly-fibrinised blood from the lungs.

In the following case, although of course general bleeding would have been inadmissible under any circumstances, the tartar-emetic evidently arrested a very formidable disease at its onset.

CASE IV. A stout, plethoric child, aged one year and eight months, was seized, on New Year's Day of this year, with hoarse breathing, cough, and general irritability. The gums were carefully examined, and, as four of the teeth had not yet appeared, free scarifications were made with a gum-lancet. A small quantity of antimonial wine was also administered occasionally. In the evening, the child was much worse; the croupy cough was decidedly manifest, the skin and the head were hot, the respiration hurried, the pulse 130, full and strong; the child was very uneasy, trying to sleep, but quite unable to do so, owing to the cough and dyspnoea: there was great thirst. I now obtained one ounce of antimonial wine, and administered it to the child by teaspoonfuls at a time, repeating the dose every five or ten minutes. This plan was continued for upwards of an hour, without producing any vomiting, and without alleviation of the symptoms; but when the whole quantity, one ounce, had been taken by the child, vomiting at last came on, the action of the heart and of the pulse was diminished, a perspiration broke out upon the skin, the cough and dyspnoea were relieved, the bowels were opened freely, and the child went to sleep. The next morning, the symptoms had nearly all disappeared: the breathing was natural, the pulse moderate, and the child was playful, although rather languid. He has since had a little cough occasionally, and his diet has been carefully watched; but he has had no return of croupy symptoms.

The treatment of *acute rheumatism* is unquestionably very difficult, nor does it seem possible by any means in our possession materially to cut short this very painful disease. It is an affection which has generally been supposed to justify the employment of venesection, and I confess that I myself held that opinion for many years. The great violence of the accompanying fever, the full and bounding pulse, the acute pain in the joints, the tendency to fibrinous deposits in various parts of the body, all seemed imperatively to demand the abstraction of blood; but I was always astonished, and not a little disappointed at finding, almost invariably, that this measure was attended with very little improvement; and that although abundance of fibrine was seen in the clot of the blood, yet its abstraction did not appear to relieve the symptoms. Many of the patients recovered entirely, but I could not persuade myself that the cure was wholly owing to the treatment; while others lingered through the acute disease to become victims of the chronic form. In short, I became persuaded, that although blood-letting in this disease might not do positive harm, it certainly was not attended by positive good. I therefore determined to adopt some other plan of treatment; and having heard of the great success which attended the use of lemon-juice in this disease, in the hands of Dr. G. O. Rees, I gave it a trial, and observed that its administration was followed by the happiest

results. Out of many cases which I have treated successfully in this manner, I select the following, as a fair specimen of the effects of this mode of treatment. I need hardly remark, that the practitioner should always watch carefully for any symptoms of pericardial or endocardial inflammation, and if they should arise, then leeches or cupping must be resorted to.

CASE V. A brickmaker, aged 19, was admitted into the Islington Infirmary, in November 1851, presenting all the symptoms of severe articular rheumatism; he had been ill for several days; the wrists, knees, and ankles were swollen, red, hot, and very tender; the tongue was covered with a white fur; the pulse was full and strong; he had no sleep from the violence of the pain; there was great thirst. The heart was examined, but it presented nothing abnormal. He was ordered to be put upon low diet, to take the juice of six lemons daily, and to have one grain of opium, in a pill, every six hours. The next day, he was much the same, but he complained of some uneasiness about the cardiac region. The heart was carefully examined, but no morbid sounds could be detected; the impulse, however, was rather strong, and a thrill could be felt immediately beneath the left mamma. He was ordered to take three grains of calomel, with one-third of a grain of opium, every four hours. In the evening of this day he was seen again, in consequence of his complaining of increased pain in the præcordial region, and it was thought expedient to apply six leeches to the part. After this treatment, he passed a bad night, but there was less pain in the region of the heart; the thrill was still perceptible, but no morbid sound could be heard. There was still great pain and tenderness in the joints. I continued the lemon-juice, with the calomel and opium. The next day he was better, and he had slept a little during the night. The lemon-juice was continued, and he was ordered to take one grain of opium three times a day. Under this treatment he continued to improve; and although, from an error in diet, he relapsed afterwards for a few days, yet when the diet was again regulated, he went on quite favourably, taking the lemon-juice regularly every day, and taking also opium in grain doses at frequent intervals. He entirely recovered; the tongue became quite clean; the pain diminished, and, at last, left him entirely; and he slept well without opium. He was discharged perfectly cured about three weeks after his admission. If it had not happened that the pericardium became slightly affected in this case, requiring the application of six leeches, this boy would have recovered without the loss of a particle of blood; and I may also mention, that no colchicum was used in this case, as I had convinced myself that this drug was as little to be depended upon as the abstraction of blood in the treatment of acute rheumatism.

In the next case, the results are merely negative, and it is adduced only to show that blood-letting is not decidedly beneficial in acute rheumatism.

CASE VI. A young lady, who had previously had an attack of acute rheumatism, was seized with a variety of anomalous symptoms connected with disordered menstruation, in June 1850. On the 4th of July, the attack of rheumatism became perfectly developed, the tongue was white and furred, the wrists and elbows red, hot, and very painful: the pulse 120, full and strong. As I was not then fully persuaded

of the efficacy of the treatment by lemon-juice, and as I understood that in the former attack this young lady had suffered from pericardial inflammation, I abstracted blood to the amount of sixteen ounces. The blood was buffed and cupped. Colchicum was also ordered with alkalies. Very little amendment followed these measures. The pain was agonising, there was no sleep at night, and the rheumatic pains became complicated with other pains evidently of an hysterical and neuralgic character. Various remedies were successively adopted: solution of veratria, tincture of aconite, and extract of belladonna were applied,—sometimes separately, sometimes together,—to the affected joints; and opium was given internally in large doses. After nearly two months of intense suffering, this young lady became sufficiently recovered to be sent into the country; but in September, the disease assumed the chronic form, accompanied by neuralgia. This was treated by quinine, iodide of potassium, bicarbonate of potash, and vegetable tonics, alternated by iron. She eventually recovered; and although I do not positively assert that the venesection did actual harm, I think if such a case were again to occur to me, I would not practise it; but, if I were sure of the absence of cardiac complication, would treat the disease with lemon-juice and opium.

(To be continued.)

8, Torrington Square, January 1852.

ON VASCULAR TUMOUR, AND MORBID VASCULARITY OF THE FEMALE URETHRA.

By H. B. NORMAN, Esq., F.R.C.S. Eng., Surgeon to the North London Infirmary for Diseases of the Ear; and to the St. Marylebone General Dispensary.

IN the last number of the LONDON JOURNAL OF MEDICINE, I have read with some surprise an article by Dr. Gream, on what that gentleman has newly named *Morbid Vascularity of the Living Membrane of the Urethra*, in distinction to the title of Vascular Tumour, heretofore applied to the disease of which he treats, and generally adopted since Sir Charles Clarke wrote his work on the *Diseases of Women Attended with Discharges*.

I find no fault with the author for this change of nomenclature, which is to some extent justified by the facts of the case, nor with any of his descriptions of the appearances and symptoms to which this diseased condition of the urinary canal gives rise, although perhaps they fall short, in completeness of detail, of what has been elsewhere written by others.

But Dr. Gream is in error in supposing that, with the exception of Sir Charles Clarke, Drs. Ashwell, and Meigs, whom he quotes, no author has written anything material on the subject. In the *Edinburgh Monthly Journal of Medical Science*, for June 1849, there is a paper by myself entering very fully into this matter, amply illus-

trated by cases derived from various authorities and from my own practice, and containing perhaps a more circumstantial and detailed account of the varieties of the disease in question than is elsewhere to be met with. The result of my inquiries on this subject was first communicated to the Harveian Society in the form of a paper read at one of its ordinary meetings, and at a subsequent period, with a little recasting, was published in the Journal above named. In that paper it will be found that I have derived information from the following works and authors:—Sharp: *Crit. Inq. into the Present State of Surgery*. London: 1750. Broomfield: *Chir. Obs., etc.* Warner: *Reports and Cases in Surgery*. David D. Davis: *Obstet. Med.* Burns: *Principles of Midwifery, etc.* Sir Charles M. Clarke: *Diseases of Women, etc.: Med. Facts and Observ.*, vol. iii, p. 26. Case by Mr. Hughes: *Lond. Med. Journal*, vol. vii, p. 160. Case by Mr. Jenner. Brodie, Sir B.: *Lectures on Diseases of the Urin. Organs*. Ashwell, T. S. Lee, Warren, Boivin, and Dugés,—and that I have referred to other sources of information which were not known to me until after preparing for publication. I doubt not that there are yet many which I have not explored, as there are others not named which I have examined. The summing up of my paper was as follows:—

“From what has now been advanced it will be seen—

“1. That the urinary passage of the female is, in its whole extent, from the external orifice to its termination in the bladder, liable to become the seat of excrescences; and that though the orifice is the most frequent seat of these growths, they are not very uncommon in the interior of the canal.

“2. Though entitled to one common appellation from their vascularity, they differ much in some other respects. Thus, in size, they may vary from a simple large granulation to a tumour as large as a date, or, as in the case related by Mr. Warner (Case ix), as a turkey's egg; in consistence, from something scarcely exceeding the solidity of jelly, to a considerable degree of firmness; in external surface, they may be perfectly smooth, or granular; in form, flattened and sessile, rounded, and growing irregularly from the whole margin of the meatus, or pediculated and pendulous: sensitive to the highest degree, or, as in one instance quoted (Case x), not even sensible. Their sensibility bears no relation to their size, unless it be in the inverse ratio; the smallest excrescence certainly gives equal pain and distress with the largest.

“3. Little has been made out in relation to the intimate structure of these growths. Boivin and Dugés call them cellulo-vascular. Mr. T. S. Lee says they ‘are entirely made up of vessels, and their connecting cellular tissue.’ Warner says, one of his, which he examined, ‘consisted of a number of fibres’, and the excrescences removed by Dr. Davis, ‘examined in water, showed a fibrous structure.’ The following is Mr. Quekett's description of the excrescence (Case v), which he has kindly examined for me. ‘The specimen was of an oval figure, about two lines in length in its long diameter. It was white, and had numerous small confervoid filaments attached to its outer surface, from having been some time in water. A thin slice from the external surface, when examined microscopically with a power of 200 linear, exhibited the same structure as ordinary cuticle;

the epithelium of the outermost layer being composed of flattened scales, whilst the cut surface exhibited the same kind of cells, more condensed, and firmly adherent together; a vertical section through the mass showed several papillæ of various sizes, which were very vascular, and surrounded by an investment of cuticle, which, with the papillæ, made up the entire mass of growth; at the part where the papillæ were situated, the growth was smaller than at the opposite extremity, as though it had been attached by a constricted neck or pedicle. The papillæ, no doubt, were largely supplied with nerves, as well as blood-vessels, but their presence could not be detected by the microscope. The growth may be said, then, to consist of hypertrophied papillæ, invested with a thick layer of cuticle, which projects from the greatest surface of the mucous membrane, in a wart-like form.' This connection with the papillæ will serve to explain the extreme sensibility generally possessed by these tumours.

"4. They are non-malignant, though, according to Boivin and Dugés, 'they may doubtless become cancerous.'

"5. They have for the most part an extreme tendency to be reproduced, when cut off or otherwise removed; but this is hardly a constant character, and may generally be counteracted.

"6. They are common to the married and unmarried, and to all ages, from infancy to old age; but are most frequent, probably, during the period of activity of the generative system.

"7. They have been ascribed to syphilis, excessive venery, and masturbation, but I cannot discover any good ground for admitting either of these causes, believing that they are causes only in the light of being occasionally coincident with effects.

"8. The most constant symptom of the disease is pain in the urethra, greatly augmented during micturition, which is sometimes suppressed by dread, and sometimes excessively frequent from the extension of the irritation to the bladder; augmented, also, by all movements of the vulva, by coition, and during the menstrual flux. A muco-purulent discharge from the vagina accompanies the growth, and there are occasionally severe sympathetic pains in the loins, pelvis, hips, and inside of the thighs, and a discharge of blood, leading to the idea that the case is one of calculus of the bladder. To prevent this mistake, which has been often made, whenever the more common symptoms are present, and *not accounted for by a morbid condition of the urine*, careful examination of the vulva should be made before an opinion is given.

"9. The external characteristics of these growths are sufficiently clear to prevent their being confounded with other swellings,—as verrucæ, prolapsus of the bladder, eversion of the mucous membrane of the urethra, or varicose tumour of this part, and still more with prolapsus uteri; a mistake which, in one instance, we see has nevertheless happened (Case VI).

"10. The treatment required is strictly local, and consists of such means as entirely destroy the growths, and are most likely to prevent reproduction. These are cauterisation, caustics, astringent lotions, excision, ligature, and pressure by bougies.

"They are all applicable in different cases. If the growth is single or double, and not attached by a very broad base, it may be removed either by excision or ligature. The former has, perhaps, the most

numerous advocates, and among them Sir B. Brodie and Dr. Ashwell, and was practised in several of the cases cited in this paper. To the latter I give a decided preference, along with Sir Charles Clarke, in consequence of the serious hæmorrhage that often follows excision. In either case, a powerful caustic should be applied to the point from which the growth has been removed, to prevent its reproduction.

“The actual cautery or caustics are only applicable primarily to the very small excrescences near the orifice, and to those which answer to the description of Dr. Ashwell, *i. e.*, having the appearance of several raised coalesced granulations, or two or more isolated ones; as a secondary means, they are applicable, as before mentioned, after excision or ligature. The more powerful the caustic, if proper care be used to prevent its spreading, the less suffering it produces, and the more quickly it effects its purpose. Potass, nitric acid, and pernitrate of mercury, are the best. Nitrate of silver gives excessive pain, and is slow and inefficient.

“Bougies, like caustics, have a primary and a secondary use. Primarily, they form the only efficient means of treating those growths which affect, in a general manner, the interior of the urethra, and their use is well illustrated in Dr. Davis’s case (Case x); secondarily, they are, perhaps, when regularly introduced, and worn for some considerable time, as useful as caustics, if not more so, in preventing reproduction of a tumour that has been removed. The pain which they occasion in their primary use, must be met by anodyne local applications, and now-a-days anæsthetics may be brought into use for this purpose. In their use, as secondary means, they do not occasion suffering.

“By one or all these means, this most distressing affection may, in general, be effectually cured; even the most formidable cases, as we have seen, may yield to bold and persevering endeavours, as illustrated in cases ix and x. The latter does great credit to the ingenuity and perseverance of the physician who records it; and the former to the ability with which an important operation was devised and carried out. The successful result, in both cases, leads me to hope that some fungous tumours of the bladder, especially in the female, generally supposed to be beyond the reach of medicine or surgery, may yet be made amenable to the latter, at least. The ready distensibility of the female urethra admits of the examination of the bladder by the finger without difficulty, and thus can be ascertained the size, form, and position of any foreign body in its cavity; and the question of treatment can then be decided, whether, as in Mr. Warner’s case, the urethra should be divided, and a ligature be placed around the growth, or it should be excised; or, as in Dr. Davis’s, some kind of bougie should be used; or, finally, it should be left to take its course. Mr. Warren, it appears, contemplated the excision of a fungous tumour of the bladder, in a case in which he was consulted, and he proposed to himself one of two plans: namely, either ‘to make an incision through the vagina, and cut away the diseased portion of the bladder; or to cut open the urethra on its side, and, introducing a finger, to examine the tumour, to seize it with a hook, draw it out as much as possible, and excise it.’ As he could find no precedent for either method, and dreaded from the one an incurable fistula, and from the other effusion of urine into the cellular membrane about the

bladder, he declined urging the operation. The patient, a delicate lady, aged 50, lingered about eight months, and dying in the country, no examination of the body was made. To his first plan, the objection suggested is valid; to the second, I think not; and probably had he been acquainted with Mr. Warner's case, he might have embodied his idea in practice, it may be, unsuccessfully; but the subject, I think, merits attention. From any known treatment of such cases, there is no hope of cure, and but little, if any, of benefit; they end almost uniformly fatally, either from the effects of hæmorrhage, as, as Mr. Warren suggests, 'from consequent derangement of the stomach and intestines'."

In the preceding summary, I think I have stated pretty fully almost all that is known regarding this disease, and that there is but little more to be added to it; although numerous cases have come again under my own observation, and I have been favoured by friends with the particulars of others. I am convinced, however, that there is not such a general acquaintance with this disease in the profession as there ought to be; and, as a consequence of this, that much suffering is endured by many women, for long periods of time, which they might, were it otherwise, be spared.

For example, whilst my former paper was in press, Mr. Hillman invited me to be present with him, and to assist him in operating on a young married woman, who had suffered *for eighteen months severely* from the ordinary symptoms of this malady, and had, during that time, gone through the painful process of childbearing, augmented in severity by the presence of this disease in the urethra, which had never been discovered, and consequently had not been relieved by the various medicines which had been prescribed for her, to "cure her of the gravel". In this case, there were one or two excrescences within and around the orifice of the meatus urinarius, and several *spots* of similar disease on the membrane of the vestibule. The former were excised, and potass applied to their bases, to do which effectually, it was deemed necessary to dilate the urethra; the latter were treated simply by the application of potass. The treatment has proved perfectly successful.

In that same summer, my friend Dr. Hearne, of Southampton, communicated to me the details of a case, in which he had successfully removed an excrescence of this sort from the urethra of a very respectable woman, the wife of a tradesman, who had suffered *eight years, unexamined and unrelieved*, though she had repeatedly had professional advice, and used various local applications and internal medicines. In this case, the excrescence, which was small and pediculated, was removed by scissors, and the potass applied to its base. The relief was immediate; and there had been no return of suffering when I met Dr. Hearne last, about a month ago.

Last autumn, I again assisted my friend Mr. Hillman in extirpating a small vascular sensitive tumour from the urethra of a married female, past the middle age, who had suffered *several years* from this disease, and had repeatedly been under medical treatment on account of it; but *the real cause of her sufferings* had never been discovered until she consulted Mr. Hillman. I might cite other instances, but the foregoing will perhaps be deemed sufficient.

The *diagnosis* of this disease is sometimes rendered difficult by the following circumstances, unless the parts be inspected:

1. That the tumour or vascular spot is in some cases not sensitive, except when exposed to unusual irritation by exercise, or the passage over it of acrid secretions.
2. That in others, where the disease is generally painful, its sensibility may be for a time suspended by the use of a diuretic, such as gin; and
3. That other causes may give rise to symptoms bearing a very close resemblance to those generally present with the vascular tumour.

Thus, in reference to the first head, Mrs. B., a middle-aged married woman, mother of a grown-up family, whose ordinary health was usually good, but who had recently been suffering much in her urinary organs, was on that account transferred to my care at the St. Marylebone Dispensary, about two years ago, by my colleague Dr. Chorley. Her general symptoms were those of slight fever, accompanying some gastric derangement—quickened pulse, dry furred tongue, loss of appetite, etc.; but her chief complaint was of great pain in the passage during and after making water, and great tenderness of the genital organs, which caused every posture, and the sitting posture especially, to be painful. There was no blood in the water, which could be held for several hours; pain in the back and loins, and general uneasiness, were present. When I first saw this patient, I did not deem her symptoms conclusive; but they seemed to indicate dysuria from an acrid state of the urine. I accordingly prescribed salines and alterative aperients, with suitable regimen and diet. In a few days, the dysuria, etc., ceased, and she felt otherwise well. Shortly after, she again had a return both of the general and local symptoms, all of which again yielded very readily to the same general treatment; so that she could sit, walk, or lie in any posture, and make water easily. On this second recovery, I obtained permission to examine the vulva, and found in the orifice of the urethra a small florid excrescence, not much larger than a grain of rice, yet *very tender* on being touched, and precisely such as is often sufficient to make a woman's life miserable, and to render matrimonial intercourse intolerable. In the present instance, its presence was only inconvenient during a temporary state of pyrexia. The state of the urine, I should say, was not accurately determined during the period of suffering; but it was said to be high coloured, and thick on cooling.

The condition of the urine was more carefully observed in the following case, for the narrative of which I am indebted to my friend Dr. Quain; and it serves well to illustrate this part of my subject:

“A lady between fifty and sixty years of age, whom I had some time before treated for a slight eczematous eruption at the bend of the elbow, and for dyspepsia, requested me to see her last Autumn (1850). I found her suffering from apparently great irritability of the bladder. She complained of a distressing heat and bearing down, and an urgent and frequent desire to pass water. She had not observed a discharge of any kind, and attributed her sufferings to over-fatigue, in taking long walks, where she had been staying in the country on a visit, followed by a journey, the day before I saw her, in a railway carriage, which rolled to an unusual extent. Her urine was strongly acid, scanty, and deposited much lithates; and there was no tenderness or other circumstance worth naming. I prescribed a warm hip-bath, an alkaline mixture, with mucilaginous drinks, and some mild aperients. Next day she was better, freer from distress; and she then mentioned

that she thought her suffering must be in some measure due to something for which she had had advice three or four years before, and which she described as being situated 'at the opening of the passage'. She said it had been cured by Dr. Pardoe, by two applications of caustic and some saline medicines, and had never since troubled her. She was led to form this opinion, from observing a slight trace of discharge or stain on a handkerchief, which she showed me. It was then dry, about the size of a fourpenny-piece, and apparently composed of mucus.

"On examination, I found the orifice of the urethra at the verge surrounded almost entirely by a ring of about one-eighth of an inch across, of a deep red villous-looking tissue. I could not say that there was any distinct or separate elevation, like a growth or wart, and I can compare it rather to the pile of velvet. It seemed as if the membrane had become unusually villous at this point. I applied nitrate of silver, which gave considerable pain; I directed her to apply a sponge squeezed out of hot water, and to continue the medicine. Next day she was greatly better, almost free from suffering. The urine had become *neutral and abundant*, and on the following day she was able to leave town again. On the return of this lady to town some months subsequently, she told me that she had experienced very little inconvenience from her journey, and had since continued well."

In considering the immediate cause of the suffering in this case, one cannot help connecting it with the concentrated and acid condition of the urine irritating the morbidly sensitive orifice of the urethra. It is not improbable that the latter is a more or less permanent condition, but that the inconvenience, if any, is not such as to call for interference except when the state of the urine is such as to produce the irritating effects felt on this occasion.

The second source of difficulty in relation to diagnosis would be noticed in such a case as the following. It is that of a young woman, of light active figure, fair complexion, and healthy aspect, who called on me at the request of my friend Dr. Hare, the summer before last. She was a domestic servant in a gentleman's family, then on her way through London with the family from the south of England into Yorkshire. She had been the subject of this morbid vascularity and sensibility of the urethra for some years, had been operated upon by excision, by caustics, and by bougies; and at the time I saw her was affected with secondary production of the disease, in the form of small villous elevations around the orifice of the urethra and upon the nymphæ. The local sufferings occasioned by these were such as at times, and especially during the menstrual period, to render her *quite incapable of exertion*, and at other times to make it needful for her to resort to the stimuli of porter or gin. The latter acted powerfully on her kidneys, and *always procured her complete temporary immunity from pain*. I had no opportunity of doing anything for this patient, as she was to leave town next day. Profiting, however, by the hint which the effect of the gin gave me, I gave her a prescription for some alkaline diuretic, which I thought would be less liable to abuse than gin, and with a few general directions as to her diet, etc., I advised her as soon as possible to consult a medical man in the country, and to refer him to me if he wished for any further information relative to the treatment of the case.

I have said that in such a case difficulty of diagnosis would occur, meaning thereby, if the patient herself were ignorant of her real malady: in the present instance it occasioned no difficulty, the patient being cognizant of the state of her urethra, and expecting to be examined.

On the third source of difficulty I need not dwell. All who are at all conversant with the diseases of the urinary organs, must be aware how very similar may be the symptoms occasioned by various actual causes. In reference to the disease here treated of, they point emphatically to the duty of obtaining, if possible, an ocular inspection of the parts to which the suffering is referred. I do not mean to urge that this step should always be taken, and at once, in every bad case of dysuria; this is quite unnecessary. In many instances, the history of the case clearly points to the cause of suffering, which is not an organic disease. But where such sufferings as usually attend this complaint are long-continued, severe, and obstinate, or apt to recur upon slight causes, or to be increased by trivial provocation, the duty seems to me clear.

In the *treatment* of this affection, I fully admit the difficulty which Dr. Gream states there is sometimes found in the use of the ligature, and in excision of the morbid growth or tissue; in some cases, attempts at either of these would be fruitless, and in such the method of applying the nitric acid recommended by that gentleman is entitled to general adoption; further precaution being at the same time used, either by keeping a sponge, moistened with water or a weak alkaline solution, closely applied to the parts immediately contiguous to those to which the acid is to be applied, or by well smearing them with oil before applying the acid, no injury from the acid need occur. The former plan I generally adopt; the latter is frequently made use of in the treatment of certain forms of piles by this powerful agent, a mode of treatment which I should think commonly known and adopted by surgeons rather than peculiar to any one. The frequent occurrence of considerable hæmorrhage after excision is undesirable, and alarming to a patient, and confirms me in my preference for the ligature. I have rarely practised excision, and never been troubled with subsequent hæmorrhage; but the cases cited in my former paper, one referred to in the present communication, and another recently related to me by Mr. Prance of Maidstone, in a letter on this subject, prove most conclusively that it is a consequence not to be overlooked.

I have never known any other serious mischief accrue from the adoption of any of the plans of treatment recommended, except in one instance, in which a young woman, a patient of my friend Dr. Aldis, had a very severe and alarming attack of peritonitis after, and as a consequence, of the removal of a tumour, of the size of a cherry, by ligature. Happily, however, she recovered from both her maladies.

In other cases, temporary dysuria, incontinence or retention of urine, and a certain amount of inflammation of the external organs with muco-purulent discharge, may occur; but these yield to the influence of time and proper treatment, and are not worth naming, if relief is obtained to the real sufferings with which this disease is so commonly attended.

BIBLIOGRAPHICAL RECORD.

ON NARCOTISM BY THE INHALATION OF VAPOURS. BY JOHN SNOW, M.D.
Reprinted from the *London Medical Gazette*. Pamphlet, pp. 92. London: 1851.

DR. SNOW commenced by endeavouring to determine the amount of chloroform, ether, and other volatile narcotic substances present in the blood of animals in the state of insensibility. For this purpose, he placed small animals, such as guinea-pigs, mice, linnets, and frogs, in glass jars, holding several hundred cubic inches of air, in which a known quantity of the vapour arising from the substance to be examined was diffused.

Successive trials were made, until the smallest proportion of vapour was ascertained, which, when mixed with the air, would suffice to induce insensibility, and allow of the animal to continue breathing it, without its effects increasing beyond a certain point. He considered that, when the effects of the vapour became stationary, and equilibrium was established between the elastic force of the vapour dissolved in the blood, and that diffused through the air in the lungs: and the temperature of the animal under experiment being known, as well as the solubility of the anæsthetic substance in the serum of the blood, the proportion present in the blood could be calculated. Experiments of this kind are related, which were made with chloroform, sulphuric ether, nitric ether, bisulphuret of carbon, benzin, bromoform, bromide of ethyle, and Dutch liquid. It was ascertained that the proportion of each of these agents present in the blood in a state of complete insensibility, is about one twenty-eighth part as much as the blood would dissolve; and in a state of confused consciousness, in which ill-directed voluntary motions are performed, about half as much, or one fifty-sixth part of what the blood would dissolve. It follows, therefore, that the quantity of these substances requisite to cause insensibility is in the inverse ratio of their solubility in serum, or, what is nearly the same, in water. This explains why sulphuric ether requires to be inhaled in so much greater quantity than chloroform: since it is soluble in ten parts of water, whilst chloroform requires about two hundred parts for its solution.

Dr. Snow performed similar experiments with a number of other agents; and he states that the result confirms the above law, although the experiments are not given in detail. The substances all resemble chloroform and ether in chemical constitution, so far that they contain carbon without containing nitrogen as a basic element; and the author states that the above rule does not extend to substances containing nitrogen, such as hydrocyanic acid.

Dr. Snow says that chloroform may, with due care, be safely administered at all ages, and under all circumstances in which a surgical operation could be required. He has administered it to a great number of children, from three weeks old upwards, and to many persons in extreme old age. He says that it acts more pleasantly in children than it sometimes does in after life, scarcely ever causing either mental excitement, or any of the struggling which is not unusual in adults after loss of consciousness, and just before insensibility ensues; and that, in children, immunity from pain is obtained with less narcotism of the nervous centres, than in older subjects. In patients with pulmonary consumption, or chronic bronchitis, the chloroform often causes coughing at the commencement of inhalation; but the cough is generally relieved for two or three days afterwards. The author does not let disease of the heart prevent his administering chloroform, but only considers it a reason for using additional care to avoid any violent struggling on the part of the patient; for in his opinion chloroform, when gradually

administered, disturbs the circulation less than the pain of an operation, or even the fear of it. He has exhibited this agent in some cases where apoplexy, followed by hemiplegia, had previously occurred; and also for surgical operations during pregnancy, without any ill effects. He has found that patients who are reduced to a state of debility from any cause usually become insensible very quietly; whilst strong robust persons are more or less liable to previous mental excitement and muscular rigidity. Hysterical females sometimes have a paroxysm of the disorder during the first inhalation of the vapour, and in a few cases the hysteria has returned and been troublesome afterwards; this, however, is only what happened, to even a greater extent, when no means were used for preventing the pain of operations. Dr. Snow is an advocate for the administration of chloroform in the removal of tumours of the maxillary bones, and other large operations on the face; and does not entertain the fears of blood getting into the air-passages which some writers have expressed. He considers that the glottis retains its sensibility after that of other parts of the body is abolished; and he says that he has seen a great number of operations, attended with considerable hæmorrhage into the mouth, and no ill effects have resulted from the careful administration of the chloroform in any of the cases.

Some experiments with alcohol on frogs and gold-fish are related, which seem to shew that this agent comes under the rule previously noticed, of causing complete insensibility when the blood contains about one twenty-eighth part of as much as it can dissolve. Experiments are also related, shewing that chloroform can be detected by chemical means in the breath of persons who have inhaled it as much as twenty-five minutes before. It was detected also very easily in animals killed by it, and also in a portion of a limb removed whilst the patient was under its influence, and on one occasion traces of it were detected in the urine. Ether was detected by chemical analysis passing off unchanged from the blood in the expired air, and the writer of the papers also succeeded in obtaining alcohol from the breath after it had been taken into the stomach. He makes some calculations to shew that nearly all the chloroform or ether which is inhaled passes off afterwards in the expired air, whilst only a small portion of alcohol is so eliminated. Some experiments are described, which shew that the effects of ether and of chloroform can be much prolonged by causing the vapour which passes off in the breath to be inhaled over again. There are also a number of experiments to determine the amount of carbonic acid gas excreted by the lungs under the influence of these agents, the result of which proves the amount of this gas to be much diminished. Other experiments shew that chloroform, ether, and alcohol, have the property of destroying the irritability of the muscles which remain after death, and bringing on the post-mortem rigidity. Fifteen minims of chloroform, for instance, being agitated with two drachms of tepid water, and injected into the aorta of a guinea-pig immediately after death, destroyed the irritability of the muscles, and caused instantaneous rigidity in every part of the body, except one of the upper extremities, into which the injection did not penetrate. The rigidity of the muscles which was caused in this way lasted for a very long time—in some instances between two and three weeks—putrefaction being at the same time prevented, and coming on ultimately, in all probability, on account of the evaporation of the chloroform.

Dr. Snow considers that the above circumstances, viz., the evaporation of narcotic vapours unchanged in the expired air—the diminished production of carbonic acid gas under their influence, and the extinction of the irritability of the muscles and prevention of putrefaction, establish some views of the *modus operandi* of anæsthetic agents, which he announced as long ago as 1847. His opinion is that these agents, and probably all narcotics, when dissolved in the blood, have the power of retarding or preventing that combination between the oxygen of the arterial blood and certain constituents of

the blood and tissues of the body, on which sensation and all the animal functions depend; and that they exert this power without themselves combining to any extent with the oxygen, in the same way that they retard and prevent ordinary combustion; the oxidation of phosphorus, that which constitutes putrefaction, and other forms of oxidation out of the living body. He adduces a number of other circumstances and arguments in support of his views, which we have not room to notice, and he expresses an opinion that the power in question depends on a counter affinity for oxygen possessed by narcotic agents.

The author makes a comparison between asphyxia and a deep state of narcotism, and also between the latter and apoplexy; and he shews that whilst narcotism resembles both asphyxia and apoplexy in some particulars, it differs from them in others.

The above is an abstract of only some of the subjects treated of in the valuable series of papers by Dr. Snow; for we have passed over all those points treated of by him in this JOURNAL, either in his paper on the use of chloroform, which appeared at the commencement of 1849, or in our Reports of Societies and Digest of the Journals.

RUPTURE OF THE PERINÆUM, AND ITS TREATMENT. Illustrated by Cases.

By ISAAC B. BROWN, F.R.C.S., Surgeon-Accoucheur to St. Mary's Hospital. pp. 30. London: 1852.

Rupture of the perinæum, to some extent, is by no means an unusual occurrence, especially in first labours, or when from any cause the parts are not sufficiently relaxed, to dilate with the pressure exerted upon them by the presenting part of the fœtus, urged down by energetic uterine contractions. When ergot of rye is administered at too early a stage of labour, when the parts are rigid, the violent bearing down caused by it is sometimes the immediate cause of a rent in the perinæum. It may likewise be occasioned by a spontaneous sudden and violent action of the uterus, before the os externum has become dilated; or an injury of this description may also be inflicted when delivering by instruments. The majority of cases, being of a partial nature, are easily treated by rest and the use of lotions. But others of a formidable character sometimes present themselves; and it is as bearing upon their treatment, that the history of Mr. BROWN's cases are valuable.

Mr. Brown details two cases. The first patient was "a fine, well-proportioned woman, thirty-seven years of age, and the mother of six children". During a protracted and difficult labour, the perinæum had given way, and the rent had extended through the sphincter ani into the rectum. The operation is thus described:

"Dr. Snow administered the chloroform. We placed her in the position for lithotomy. I then pared off the cicatrices on each side, and the mucous membrane, to the extent of an inch backwards into the vagina, and to about two inches in length from the rectum to the vagina within the labia; the edges of the bowel, which were drawn back by the absence of the anterior portion of the sphincter, I also cut away, and brought the whole together by a triple suture, *i.e.*, by passing the suture through one labium at the posterior angle, then through the bowel, and thirdly, through the opposite labium. I then passed two double sutures deeply (at least an inch in depth) through both labia, and fastened them over two quills externally; then I stitched the margin of the labia with small needle sutures. Finally, on passing one finger down the vagina and another up the rectum, I found there was a space not in apposition: I therefore introduced another suture through the vagina and rectum, thus making sure of every portion being in close apposition.

"The operation lasted one hour. After sponging the parts perfectly clean

with cold water, I applied cold water dressings under a bandage, and gave my patient two grains of solid opium, and at 7 o'clock one grain more." (p. 12.)

The treatment subsequently adopted consisted in the use of the catheter every six hours, the careful and frequent ablution of the parts, and the free use of opium. On the 20th, her state was not satisfactory, and a recto-vaginal fistula was discovered. On the 26th, the edges of the fistula were pared. On the 27th, she had her bowels moved for the first time since the original operation. She menstruated on the 12th September. On the 19th, her condition is thus described by Mr. Brown:

"The catamenia having subsided for twenty-four hours, I examined carefully, and was pleased to find the fistulous opening by the side of the anus much less than it was a week since; but the mucous membrane had joined the skin on the left side of the opening, thus arresting all granulations there, and of course preventing a complete closing of the tissues. I therefore determined to pare the edges of the entire opening, and take one good deep stitch with a double silk suture; this I did at 10 A.M., and found, afterwards, by passing one finger up the rectum and one into the vagina, that I had effectually closed the passage.

"The *new perinæum* I found half an inch in thickness, and very healthy; I gave two grains of opium, and one grain every two hours, to prevent pain and arrest the action of the bowels; at 8 P.M. I emptied the bladder by the catheter, and watched all night; at 3 A.M. on the 20th, she was very sick, and vomited freely, after which she slept at intervals; at 11 A.M. I emptied the bladder again. There were several clots of blood filling the vagina, which now came away. I directed her to pass the urine herself next time, by kneeling on the bed. 6 A.M.: Has passed urine freely in the way directed, and some more clots have come away."

On subsequent occasions, as the granulations were sluggish, they were brushed over with acetum lyttæ. On the 5th October, the actual cautery was passed into the sinus; on the 7th, the patient returned home. On the 8th December, she was examined by Mr. Brown, who "found no fistulous opening, but a firm perinæum".

Mr. Brown very properly attaches great importance to the frequent use of the catheter; but we are not inclined to concur with him in thinking, that the reparative process of adhesion can be best promoted by "keeping the bowels quite quiet—allowing no action", by means of opium. The judicious use of opium, for the purpose of obtaining its tranquillising and sustaining powers, is often doubtless most excellent practice; but to entirely confine the bowels, as was done in the above case, "*for twelve days by repeated doses of opium*", is a practice which, in the majority of instances, would, we feel assured, induce an amount of constitutional disorder, and inaptitude for cure, far more than sufficient to counterbalance any retardation of the desired union of parts from moderate straining caused by the extrusion of fæces; and the passage of long pent up hard motions would at last be a great evil.

Another case is related in which union took place rapidly, and without any unfavourable symptoms.

Mr. Brown sums up some observations on his two cases by laying down the four following rules:—

1. Prepare your patient by careful medicine and regimen for the operation; and clear out the bowels.
2. Divide the sphincter *ani* *before* applying the sutures.
3. Use the catheter frequently.
4. Give opiates frequently, and quiet the bowels, so as to prevent any dejections.

Mr. Brown's idea, in using the opium, is the special importance of preventing action of the bowels; but in an addendum to the pamphlet, Dr. Handfield Jones thus expatiates on the subject. It will be observed that he assumes that virtue was manifested by the drug in the two reported cases.

"Perhaps, however, if we consider the matter more closely, it may appear not difficult to understand why no unfavourable, but, on the contrary, a beneficial result was produced by the opium. The condition of an ulcer, healing by granulations, may first be referred to as an extreme instance, illustrating the great waste of plasmatic material which occurs in such cases, and more or less in all that approach to it. Much of the effused plasma—effused too rapidly to be organised—is cast off as effete matter, having taken the form of pus; much is organised into the low type of the granulation structure destined to future re-absorption. This waste is needless, nay, injurious as a drain on the system; and if it can be prevented, as sometimes it may, by applications that exclude the air, or restrained and limited, as is done by the common water-dressing, the reparative process goes on much better, and with less constitutional disturbance.

"Again, if, as in the cases before us, two fresh incised surfaces are brought together, and the aim is to induce them to unite by the first intention, what can be more prejudicial to this than the effusion of much plasma, or any the least approach to the above-mentioned condition? To form a connecting medium across which capillaries may anastomose and fibres unite, the thinnest film of exudation is sufficient, and the thinner the better; for the organising process is of necessity slow, far slower than the exudative, the capillary loops must take many hours to unite, the opposed fibres some days to blend by means of the connecting material, and the further the old surfaces are separated the longer this must be delayed, and the more of the exuded matter, which itself has produced the separation, will pass into the form of effete and purulent fluid. Now this tendency to the excessive effusion of plasma, opium very probably restrains, somewhat, it may be, as it restrains a flux from a mucous surface; the hurried action is stilled, the vascular excitement tending to inflammation allayed, the sedative influence of the drug assisting Nature in her work, by preventing that which would mar or delay it. The imparting of energy to the extreme arteries, which Dr. Pereira speaks of, we know from observation to be the restoration of their tonicity, enabling distended, relaxed, and congested vessels to resume their natural calibre, and thus to transmit a due and not excessive quantity of blood in a current of proper velocity to the parts they supply. This restoration of the proper function of the arteries, 'the conductors and disposers of the blood,' as John Hunter accurately defined them, will manifestly tend greatly to prevent the excessive effusion of plasma, and thus remove at least one obstacle to the progress of reparation.

"It seems, therefore, reasonable to expect that opium, so long as it does not manifestly disorder the nervous system or the organic functions, would tend powerfully to promote the healing process, and this expectation is amply borne out by the results of these two recorded cases." (pp. 26-28.)

PHYSIOLOGICAL RESEARCHES. By SIR BENJAMIN C. BRODIE, Bart., D.C.L., F.R.S. Collected and republished from the *Philosophical Transactions*. 8vo., pp. 146. London: 1851.

The physiological researches of SIR BENJAMIN BRODIE were the foundations of his present fame, as they strongly and early stamped him, in the opinion of his professional brethren, as an earnest, talented, and scientific inquirer for truth. The lapse of many years has not withdrawn from the value of these investigations, though their continuance has been allowed to pass almost entirely into other hands, in consequence of the author's time having been engrossed with those arduous toils which are inseparable from the prominent position which he has so long held in the metropolis as a consulting surgeon in almost every class of diseases. In the preface, he remarks:—"I have not had it in my power to continue the pursuit of those physiological inquiries, to which I was able to devote a considerable portion of my

time during the early part of my professional life. However, whatever loss this may have occasioned to myself, it has caused no loss to the public. A part of these inquiries at least has been most successfully pursued by others; and especially the labours of Orfila, Christison, and Taylor, have extended our knowledge of the destructive agency of poisons far beyond the limits of my original investigations." In addition to a reprint of the memoirs, the volume before us contains additional remarks in the form of notes, by which its value is considerably enhanced.

The subjects treated of are—the influence of the brain on the action of the heart and on the generation of animal heat; the different modes in which death is produced by certain vegetable poisons; and various observations and experiments illustrating the action of poisons.

PATHOLOGY OF THE HUMAN EYE. By JOHN DALRYMPLE, F.R.S. Fasciculi VII and VIII. London: 1852.

This admirable work proceeds steadily, and will, we believe, be completed by one more part.

Fasciculus VII is devoted to the illustration of Cataract, and not only are the drawings of great beauty, but much valuable practical information is contained in the letter-press. Let us hear what MR. DALRYMPLE says as to the CURE OF CATARACT WITHOUT OPERATION.

"As perfect transparency is the normal state of the lens, so any approach of opacity is a deviation from that condition, a disease, and a loss of due nutrition of this complex mechanism. I assert, however, fearlessly, that whenever such opacity has occurred in the lens as shall be unequivocally determined, though it may be slow in progress, or even arrested for a time, that structure never recovers its former pellucid state. In other words, no medical treatment—no improvement of general health, can restore the lens to its original condition. It is necessary to state this firmly; because patients have been again and again deluded by specious announcements of the cure of cataract without operation. Innumerable specifics have been vaunted: fumigations of prussic acid, of ammonia and ether, electricity, etc., applied with a promise of a certain cure; robbing not only the patients of their money, but also not unfrequently of the chances of success by operation, when they have become blind by the further progress of the disease."

Fasciculus VIII contains Strabismus, Ptosis, Palsy of the Facial Nerve, Cysts in the Anterior Chamber, Conical Cornea, Microphthalmus, Buphthalmus, and Coloboma. The following remarks of this judicious and experienced surgeon on the OPERATION FOR STRABISMUS are well worthy of consideration, especially as, if report speaks truly, the class of reckless operators who "cut" every "squint" they can lay their hands upon is by no means extinct.

"In my own practice, I never operate upon children under fourteen years of age. Where the operation does not fully succeed, it leaves the case worse than it found it; and, in very young persons, strabismus may be overcome by careful training in some instances, and in others, it becomes spontaneously straight, either from improved health and tone, or from some of those mysterious organic changes that occur about the age of puberty. For the different modes of training or educating a strabismic eye, or for the attention to the constitutional health of such children, I must refer to the more systematic writers, that have so plentifully supplied the public with information upon the subject of strabismus within the last few years."

We heartily concur with these remarks; and only wish that they may prevail with those gentlemen who are never so happy as when with a knife in their hand, and who forget that to cure by skill is more honourable than to cure by mutilation.

In conclusion, we can conscientiously render our meed of praise to every party concerned in the getting up of this truly beautiful work.

ANNUAL REPORT OF THE PROGRESS OF CHEMISTRY, AND THE ALLIED SCIENCES, Physics, Mineralogy, and Geology, including the Application of Chemistry to Pharmacy, Medicine, Agriculture, the Arts, and Manufactures. By JUSTUS LIEBIG, M.D., and H. KOPP, etc. Edited by A. W. HOFMANN, Ph.D., F.R.S., and H. BENGE JONES, M.D., F.R.S. pp. 627. London: 1852.

A carefully compiled digest of the progress of human knowledge, made from time to time in any department of science or philosophy, by those capable of estimating the relative value of each discovery or invention, and knowing how to give due prominence to each, is the most welcome gift in the power of men, distinguished in their especial departments, to make to their fellow labourers in such pursuits. An Annual Report is the most fitting form for such a classified and departmental arrangement of all the conquests in the realms of thought and experience achieved during each year, affording to each worker a ready reference to what has been done by his fellows, bringing at once beneath his eye the agreeing or conflicting evidences or hypotheses on debateable points, and affording him an opportunity of testing and comparing each with the other, without obliging him to undergo an amount of labour terrific to contemplate, even supposing him to be not only a skilled linguist, and to possess the requisite leisure, but also to be placed in a position, either to afford to purchase, or to gain access to in a public library, the swarms of serials in almost every European tongue, which constitute the records of the progress of knowledge.

We are led to these reflections by the book before us, which is the Second Part of the Third Volume of the *Annual Report on the Progress of Chemistry*, compiled by LIEBIG and KOPP, who have been assisted in their labours by several of their fellow Professors in the famed University of Giessen, men of no mean note in the annals of science, and edited by DR. HOFMANN, of the Royal College of Chemistry in Oxford Street, and DR. H. BENGE JONES, of St. George's Hospital. A better guarantee for the exactness and correctness of the vast store of information on those branches of science more directly connected with chemistry, than the names which grace the title-page of this *Report*, we could not possess, and the contents do not belie the external promise; for this series of Reports presents to us the condensed facts and hypotheses, the results of the labours of the chemists, physicists, geologists, and many other students of natural science, scattered throughout the world, collected, as it were, into one focus, and within the means and reach of all. Our medical brethren will find in this Report a vast amount of information directly bearing on the every-day practice of their profession, as well as much which does not so immediately concern them to know, unless they happen to be cultivators of the various sciences collateral to medicine, a fair acquaintance with which is fortunately now regarded as indispensable, not simply to the follower of medicine, but also to every well educated man.

We cannot do better than back our opinion of the utility of this publication to our professional brethren, by extracting the admirable abstract of the results of the ingenious and extensive researches of that accurate observer Regnault, and his fellow-labourer Reiset, on the RESPIRATION OF ANIMALS.

"In warm-blooded animals (mammalia and birds) living in their natural state, and on their proper food, an evolution of nitrogen is constantly taking place; the quantity of the nitrogen thus evolved is always less than 2 per cent., and in most cases less than 1 per cent. of the total weight of the oxygen consumed. When suffering from hunger, the animals, on the contrary, frequently absorb nitrogen, and, indeed, in the same proportion in which, under ordinary circumstances, it is evolved; this absorption of nitrogen was almost always observed in hungering birds, but seldom in the mammalia. If, after several days' fasting, an animal be fed with food very different from that on

which it usually subsists, it often still continues to absorb nitrogen; as soon as it has become accustomed to this diet, evolution of nitrogen again takes place (this was observed in hens which fasted for several days, and were then fed exclusively upon flesh). An evolution of nitrogen was also observed in sick animals.—The proportion between the oxygen contained in the expired carbonic acid, and the total amount of oxygen consumed, appears to depend much more upon the food than upon the species of the animal. It is very nearly 1 to 1, that is, the maximum quantity of oxygen is contained in the expired carbonic acid, when the animal is fed with grain (it was even frequently observed, in a hen and a rabbit, that the oxygen contained in the expired carbonic acid, exceeded the total amount of oxygen consumed); these quantities are in the ratio of 0.62 or 0.80 to 1 when the animal is fed on flesh alone; an intermediate ratio is observed when the food consists of green vegetables. The proportion between the inspired oxygen, and that expired in the form of carbonic acid, is nearly constant for animals of the same species, maintained on exactly the same diet. When the animal is under the influence of hunger, the proportion is nearly the same as it is when on a flesh diet, in general even somewhat less; in fact, when hungry, the animal is consuming the substance of its own body, *i. e.* flesh, and in this state all warm-blooded animals resemble, with respect to respiration, the carnivorous species. Hence the proportion between the oxygen contained in the expired carbonic acid, and the total amount of oxygen consumed, is by no means constant, since it was found to vary between 0.62 and 1.04. The heat is undoubtedly developed in animal bodies by a purely chemical process, but of a nature too complicated to allow the quantity of heat produced to be calculated from that of the oxygen consumed. It happens only by chance, when the quantity of heat evolved by an animal body, is found nearly to coincide with that which would result from the combustion of the carbon contained in the expired carbonic acid, and of so much hydrogen as would suffice to form water with that portion of the inspired oxygen which is not contained in the carbonic acid; the earlier determinations of the quantity of the expired carbonic acid are probably too low, moreover, the foundation of the above assumption is invalidated by the observation that more oxygen was frequently contained in the expired carbonic acid, than was consumed by the animal. The quantity of oxygen consumed, which corresponds to a given period and a given weight of the animal, varies with the duration of the process of digestion, with the amount of exercise, and a variety of other circumstances; for the same species, it is greater in young than in old animals; it is greater in thin but yet healthy animals, than in those which are fat. Lastly, the quantity of oxygen consumed varies, even in animals of the same species, according to their absolute weight; it is ten times greater in sparrows than in hens. Warm-blooded animals evolve, by perspiration, only small, and scarcely estimable quantities, of ammonia and gases containing sulphur.

“During the *winter-sleep of hibernating animals (e. g. marmots)* nitrogen is frequently absorbed; the proportion borne by the oxygen contained in the expired carbonic acid to the total amount of oxygen consumed, is frequently only as 0.4 to 1. Since the quantity of inspired oxygen, which is not converted into gaseous compounds, is here greater than that of the expired carbonic acid, and since the animal, at its diminished temperature, during hibernation, evolves less water by perspiration, the mere process of respiration produces under these circumstances an increase of weight of the body; this increase, however, is limited to the intervals between which the animal passes its urine. During the winter-sleep the marmots require far less (frequently only one-thirtieth) oxygen than in their waking condition; immediately upon waking, however, they require, in consequence of their accelerated respiration, much more than in their ordinary waking condition. In its torpid state a marmot may remain for a long time, without injury, in an

atmosphere so poor in oxygen that a waking marmot would be immediately suffocated in it.

"With respect to the respiration of cold-blooded animals, Regnault and Reiset found that reptiles of the same weight consume much less oxygen than warm-blooded animals, but that no perceptible difference exists with regard to the nature and proportions of the absorbed and evolved gases; the experiments showed at one time a slight absorption, at another a slight evolution of nitrogen. Frogs which had been deprived of their lungs, breathed with the same rapidity as in an uninjured state, and no essential difference was observed in the proportions of the absorbed and evolved gases. The respiration of earth-worms resembles that of frogs in respect of the amount of oxygen consumed for the same weight of the body, and the proportion between the total amount of oxygen consumed, and that contained in the expired carbonic acid. The respiration of insects (May-bugs and silk-worms) is far more rapid than that of reptiles, and they consume, in proportion to their weight, almost as much oxygen as the mammalia. The circumstance that only a slight elevation of the temperature of their bodies is thereby produced, depends upon the great relative surface of the insects; a thermometer surrounded with May-bugs indicated a temperature two degrees above that of the surrounding air.

"When animals of either class respire in air containing twice or three times as much oxygen as ordinary atmospheric air, no change is observed in the proportion of the expired gases; the consumption of oxygen remains the same, the same proportion is maintained between the oxygen consumed and that contained in the expired carbonic acid, and the same amount of nitrogen is evolved. When the respiration is carried on in air, the nitrogen of which is in great part replaced by hydrogen, very little change takes place; a somewhat increased consumption of oxygen is observed, probably to compensate for the greater loss of heat in air containing hydrogen." (pp. 356-359.)

In this department of chemistry, we also find reports on the Statics of the human body and the bodies of animals, researches on the blood, chyle, flesh, bones, bile, milk, urine, urinary and other concretions, and such like matters of medical interest; the remaining divisions being devoted to physics and physical chemistry, inorganic chemistry, organic chemistry, analytical chemistry, technical chemistry, mineralogy, and chemical geology, affording a mass of information, conveniently arranged for reference, concerning the recent discoveries and inventions in these respective branches of natural philosophy, which, in completeness and value, is unmatched in the scientific literature of this country.

We naturally miss the concise, and often severe, but always admirable remarks, which the late illustrious Swedish chemist, Berzelius, sometimes affixed to the abstracts of the researches of his contemporaries, which, for so many years, he presented to the Royal Academy of Stockholm, in his annual report to that learned body; but none can now speak with the authority of that eminent man, who was, as it were, the connecting link between the chemistry of the present, and that of the past; who had witnessed the wane of phlogiston, and the rise of that department of chemistry, the organic, which promises to exercise hereafter so important an influence on the life, sustenance and civilisation of man, to which, when he first applied the vigour of his mighty intellect, even the illustrious chemist of Giessen, whose name stands foremost on the title-page of this Report, was unknown to fame. It, however, argues a pleasing and prudent modesty in the compilers of the present publication, to avoid uttering judgments on the labours of their contemporaries, and to leave them rather to the verification and assent, or to the denial and disapproval of their readers.

Will the editors and publishers of this English edition permit us to suggest the advisability, if not the necessity, of a somewhat more speedy publi-

cation of their Annual? We are well aware of the vast amount of labour, consequent upon the extreme accuracy imperatively requisite to gain for such publications as the one we are considering an enduring reputation; but (in days when few are unable to read French), it has dangerous rivals on the other side of the Channel, both in respect to price, and to the recent nature of the information. We should regret if any deterioration of type or paper should be rendered requisite to reduce the price of this serial; for a book like this, printed in clear type and on good paper, carries with it, like a man of good presence, an excellent card of recommendation, and at once prepossesses the reader in its favour. Still, we feel that we are rendering a service to the interests of the work, by calling the attention of the publishers to this point; and, were the editors to devote a little more space to matters especially interesting to the medical profession,—such, for instance, as the experiments of Bernard (p. 383), on the saccharification of the urine, after wounding the fourth ventricle of a rabbit, somewhat above the origin of the fourth pair of nerves,—even by further compression of other portions of the report, it would be thus rendered of greater value to our profession, on the support of which its permanent success must in a great measure depend.

BRADSHAW'S COMPANION TO THE CONTINENT: a Descriptive Handbook of the Chief Places of Resort; their Characteristic Features, Climates, Scenery, and Remedial Resources; with Observations on the Influence of Climate and Travelling. By EDWIN LEE. 8vo. pp. 408. London: 1851.

THIS is an agreeably-written digest of useful information for the multitudes who, for the sake of health or mere amusement, seek the benefits of foreign travel. The work consists of five divisions: one is devoted to France, one to Italy, one to Switzerland, one to Germany, and in an appendix are general observations on climate, meteorological tables, notes on the mountains of Italy, and remarks on Madeira.

The author's description of Leipzig is subjoined, as, while it affords a fair specimen of his style, it imparts some curious information regarding the present state of homœopathy in its birthplace.

"LEIPZIG is likewise the seat of one of the largest German universities: a handsome new building has recently been completed. The number of students amounts to one thousand. Some of the professors of the medical sciences enjoy a high reputation. There are two large hospitals, the St. Francis, containing two hundred beds, for acute and chronic diseases, and the St. George's, which comprises an hospital, a prison, and a school for indigent orphans, with some wards for the insane. The view from the tower of the observatory comprises a considerable extent of the surrounding local country, including the battle-field. The belt of public gardens around the town, on the site of the ramparts, forms an agreeable and shady promenade.

"At the time of my first visit, I was anxious to see the Homœopathic Hospital, of which I had previously heard, Leipzig being the head-quarters of this doctrine. I expected to have found at least forty or fifty beds filled with patients; but was rather surprised to find that the building (which is a small house in the suburbs) only contained eight, and even of these all but two or three were unoccupied. At my last visit to Leipzig, I understood that matters were going on badly with homœopathy, which indeed is now comparatively little heard of in Germany and France, except at Vienna, and only requires to be understood by the public for its absurdity to be apparent, though there will always be credulous individuals who are to be caught by any novelty, when presented under a specious appearance, and backed by an unintelligible name. During its whole progress, it never was sanctioned by any individual of eminence in the profession, and was principally taken up

as a means of acquiring wealth, or a livelihood, by persons who had never been previously heard of, or who were known as having failed to acquire practice by the honourable exercise of their profession, by whom every means were taken to puff it into notice, and to keep public attention directed to it; such as repeated histories of cures, the establishment of dispensaries, of which, I believe, the only one that remains is the above-mentioned at Leipzig, even if that be still in existence; for, a few months before my arrival, the house-physician having become convinced, during a residence of some time in the dispensary, of the nullity and danger of homœopathy, gave up his appointment, and published an exposition of the system pursued, with an account of cases, which clearly shows (what had long been evident to the bulk of the profession and the public) that the so-called cures were recoveries from ordinary ailments by the efforts of nature, which were frequently a long time under treatment; whereas, by a proper medication and attention at the outset, they might probably have been removed in a few days, and that many of the more serious cases got worse instead of better, for the want of active treatment.¹ It must not be supposed that the homœopathsists always adhere to the principles of the doctrine. It has not unfrequently happened that persons who attributed their recovery to homœopathy, were treated allopathically without their being aware of it. In fact, one practitioner in Leipzig, a professed homœopathist, candidly acknowledged that he pursued both plans of treatment, and was accustomed to ask his patients by which method they would be treated, as both were equally good.²" (pp. 289-291.)

THE PHYSICIANS', SURGEONS', AND GENERAL PRACTITIONERS' VISITING LIST, DIARY, ALMANACK, AND BOOK OF ENGAGEMENTS FOR 1852: upon a Plan furnished to the Publisher by SEYMOUR HADEN, Esq. London: 1852.

This is a little book which every practitioner ought to use, and to carry constantly in his pocket. It will enable him not only more easily to perform the duties of the day, but also, with a very small expenditure of time and trouble—with infinitely less trouble than those who have not used it can imagine—to chronicle succinctly but clearly the day's work. The volume is done up in several forms; but that, we imagine, which the majority of private physicians and surgeons will find most useful and most portable is the edition which contains space for twenty-five patients, blank room for a daily journal, which is bound with a flap, and has two covered pockets for test papers, and detached memoranda.

The ruled paper which follows the daily Visiting List, is useful: but its subdivision is unsuitable to many, and ought to be left to the judgment of individuals. The information contained in the one hundred and fourteen pages of appended letter-press is extremely well compiled, and betokens great sagacity on the part of Mr. Haden, as to the kind of knowledge which the doctor should have in his pocket, if he cannot lodge it in a usable state in his head. Some pages might, however, have been omitted with advantage. For example:—Dr. Tilt's long table on Menstruation, whatever may be its intrinsic merits, as well as some other passages, ought to be expunged; simply because they do not in any way refer to the emergencies of practice, and because, by unnecessarily adding to the bulk of the Visiting List, they detract from its acceptability as a constant pocket companion.

¹ "Ueber die Nichtigkeit der Homœopathie, On the Nothingness of Homœopathy. Leipzig: 1840."

² "The fate of the Duke di Cannizzaro, well known some years ago in London as the Count St. Antonio, is an exemplification of this. Having to take homœopathic globules at intervals for some slight ailment, in order to save trouble he took three doses at once, and died two hours afterwards; the supposed globules being a concentrated preparation of *nux vomica*."

The following is a summary of the principal contents:—Visiting List; Journal; blank paper for Memoranda; Almanack; Bankers in London; Baths, their composition, temperature, and mode of use; Case-taking; Dislocations; Doses of Important Drugs; Diet; Fees; Fractures; Medical Topography of England and Wales; Poisons; Mineral Waters; Weights and Measures, etc., etc.

We advise our readers to purchase this Visiting List. We have some title to commend it, as we have now used it for three years with increasing satisfaction.

DICTIONARY OF PRACTICAL MEDICINE: Part xv, being Part vi of Vol. III.
By JAMES COPLAND, M.D., F.R.S. London: 1851.

We are glad to welcome another part of this truly valuable, and we may add unrivalled work. The names of the articles, (as they are alphabetically arranged), indicate that the work is, after all, likely to be soon brought to a successful conclusion.

In this fasciculus the subjects treated of are:—Scirrhus and other Tumours; Scrofula and Tubercle; Scurvy; Serous and Synovial Membranes; Shock (vital or nervous); Skin Diseases; Sleep, and Sleeplessness; Small-pox; Softening of Structure; Spasm; and Spinal Diseases.

The most remarkable discussion in which the author engages, is that regarding *inoculation* and *vaccination*. His tendency is to depreciate the value of the Jennerian discovery, and to argue in favour of a return to the old practice of inoculation, abolished—most properly, we think—by Act of Parliament. The doctrines espoused are those of Dr. George Gregory, which have already been refuted by Dr. A. Knox in the pages of this Journal.¹ The facts adduced by Dr. Copland, and the skilful use which he makes of them, have entirely failed to convince us; but we cannot avoid saying, that should his views ever gain public credence, the consequences to society would be most disastrous. That greater care on the part of vaccinators is required, and that revaccination is more important than many suppose, are probabilities which we confidently expect to see established as facts by the admirably-devised statistical inquiry of the Epidemiological Society now in progress. But we are, likewise, equally impressed with the conviction that the value of vaccination, and the grave impropriety of returning to the old practice of inoculating, will be placed beyond all doubt or cavil. It is, however, by a digest of the accumulated experience of the profession that the truth is to be arrived at; and we would therefore earnestly urge on all who have information to give, to send it without delay to the proper quarter.²

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA at its Annual Session, held in the City of Philadelphia, May 1851.
Vol. I. pp. 128. Philadelphia: 1851.

The great American Republic is claimed exultingly by Professor Henderson as the land of homœopathy; and, as is well known, from that territory another Professor levies a large revenue for his pills and ointment. There too, in her "office" at New York, flourishes, as a consulting physician, Elizabeth Blackwell, M.D., "that unwomanly lady";³ and there, in truth,

¹ LONDON JOURNAL OF MEDICINE, Vol. for 1851.

² DR. SEATON, of Sloane Street, who is acting as Secretary to those engaged in this inquiry, is the proper person to apply to for blank schedules containing the queries.

³ That "unwomanly lady", ELIZABETH BLACKWELL, M.D., is thus depicted by a contemporary in an article entitled MEDICAL BLOOMERISM:—"Everybody who reads *Punch* and the newspapers, has learned that some crazy Transatlantic women have been vainly endeavouring to induce the British fair to assume half the dress and many of the most arduous duties of the other sex. A little modi-

quackery is rampant in its most subtle as well as in its grossest forms. There till lately, the medical profession was in a chaotic state, and the line between regular and irregular practitioners was ill-defined; but a better era has now commenced. A vast effort is being made throughout the Union to raise the standard of medical character and medical education; and a sound ethical

fication of the petticoat and corset is, I grant, very much needed; but a rational reformation in female dress can never be brought about by such apostles as are now, or have lately been, preaching the doctrines of the Bloomer crusade. Much less can such individuals do aught for the other cause which they pretend to espouse, 'the rights of women'. It is true that in the eye of God, as revealed to us in his word, 'the rights', and the eternal destiny of both sexes, are the same; but it is as clearly told to us in the Bible, as it is emphatically declared by the physical structure of our race, that, when in this world, the man and the woman has each a distinct mission,—that the one is a help meet and suitable for the other, and that the proper discharge of the duties of life requires each to perform separate parts. The larger bones, the stronger muscles, the sterner mind, and the ruder aspect, were, not without a wise design, conferred on one sex, and withheld from the other, whose very charms, and powers of doing good, depend in no small degree upon the manner and proportion in which are impressed characteristics the opposite of those enumerated. Were our wives and our daughters to desert their nurseries, their domestic parlours, and their drawing-rooms for military colleges, inns of law, dissecting-rooms, and halls of science, the professions of arms, of law, and of medicine might derive some talented recruits; but every woman so withdrawn from the household sphere would create a disastrous void at home; and if it were possible—which, thank God, it is not—for such an insane fashion extensively to prevail, our children would grow up degenerate and untamed—a generation selfish, devilish, and savage. So it ever has been when want, ambition, or love of lucre has induced mothers to surrender their humanising dominion at home. Abundant examples might be drawn from our cotton-spinning towns, and our mining districts—as well from the tabernacles of the poor, as from the gorgeous saloons of London or Parisian folly.

"If there be truth in these remarks, it cannot be too deeply regretted that some distinguished members of the medical profession bestowed marked attention upon that famous American lady, Elizabeth Blackwell, M.D., during her recent visit to the hospitals and medical museums of London and Paris. It might be a curious, but it was an odious spectacle, to see that unwomanly lady attending operations at our hospitals, and exploring cabinets of pathology with scientific gusto. The evil of her reception is now being felt; for this Dr. Elizabeth Blackwell, graduate in medicine of an American University, has returned to her native country, and is now exulting through the press at the kindness which she met with from this and the other medical professor of London and of Paris.

"I know not the length of Dr. Blackwell's petticoats; but her political and social creed is of the ultra-Bloomer or Social school. In a report of the proceedings which took place at a 'Convention of Women' recently held on the other side of the Atlantic, I find it stated that Lucretia Mott, of Philadelphia, and ELIZABETH BLACKWELL, M.D., of New York, were appointed as a 'committee to correspond with Jeane Deroin and Pauline Roland, of Paris, and to express to them the interest of this Convention in the present position of France.' The French women named, are, or lately were, prisoners in the St. Lazare, of Paris, for political offences. Jeane Deroin was editor of a Socialist paper called *The Voice of Woman*. Such are the characters with whom the lady-doctor lately wondered at in London is identified. In the New York newspapers it is advertised, that 'Elizabeth Blackwell, M.D. has returned from Europe and opened an office in New York: which means, that she has commenced consulting practice as a physician in that city. From the *Philadelphia Medical Examiner*, it appears that the indelicacy of young men and young women attending together the same classes and dissecting-rooms is complained of; and that, as it is supposed that the female sex are likely, ere long, to enlist themselves in large numbers under the banners of Esculapius, a medical school exclusively for women is now being established in Philadelphia. Is not civilisation in its dotage?" CELSUS, in *Critic* of 15th January, 1852.

spirit is everywhere manifesting itself. In the volume of Transactions now before us, there is manifested a noble and uncompromising determination on the part of an organised body of scientific practitioners to separate themselves from even the semblance of an alliance with urine-test doctors, pow-wows, homeopaths, and other charlatans, who cluster like voracious parasites around rational medicine. Quackery must, we admit, have its numerous votaries, so long as the human mind has its present constitution; but still, it is not the less imperative upon members of our liberal profession to repudiate dangerous and dishonest practitioners. This act is due to themselves, due to the community, and due to truth; and it is one which cannot honestly or honourably be left unperformed upon the plea that notoriety gives currency to error; for error ought at all hazards to be disclaimed, and moreover, experience teaches us, that no dangerous or false doctrine can be effectually destroyed, until it has acquired a sufficient importance with the public to cause its exposure to be listened to. This assertion may to some appear paradoxical: but nevertheless, it is strictly in accordance with truth to state that the rapid spread of any heresy or abuse is a good preparative for its downfall, and is often actually necessary for its effectual suppression. Quackery in America having attained its climax, as is manifested by its hideous aspect and wide-spread influence, is now, it would appear, in a condition to be effectually exposed and destroyed.

The volume before us is partly devoted to MEDICAL SCIENCE, and partly to MEDICAL ETHICS; and from both departments we propose to transfer to our pages some interesting and instructive passages. The various articles are thus classified: 1. Minutes of the Society; 2. Address by Dr. Worthington; 3. Reports from numerous County Medical Societies; and, 4. An Act relative to the Registration of Marriages, Births, and Deaths, passed by the Legislature of Pennsylvania in the Session of 1850-1851.

It is necessary to bear in mind that the *city proper* of Philadelphia, and the different districts comprehended within the county of that name, vary greatly in their sanitary conditions and prevailing diseases. Dr. Isaac Parrish, in his Report of Philadelphia City Proper, makes the following remarks:—

“The plot upon which the city stands forms a parallelogram, of a mile in width, from north to south, and about two miles from east to west, or from the river Delaware to the Schuylkill. The ground is of the modern tertiary formation, consisting below of sand and gravel, overlaid with a thick bed of clay, the whole resting on a primitive basis, which is to be seen on the surface to the north-west of the city. The whole plot admits of the most perfect drainage, and fresh water may be obtained by digging in any part of it.

“The city proper enjoys an excellent reputation for health. It is entirely clear of malarial diseases, and, of late years, has been generally exempt from yellow fever or other malignant epidemic fevers. The cholera of 1832 and 1849 was much less extensive and mortal here than in New York, and some of the cities of the south and west. Epidemic typhus has not appeared of late years, and the cases of this disease in newly-arrived emigrants, or amongst the lowest class of the population, which occur more or less every year, rarely spread to any extent.

“Infantile diseases, which are believed to be traceable to our peculiar climate, and to confined air in hot weather, are unhappily prevalent during the heat of summer, and sometimes to an alarming extent. This arises in part from the oppressive heat of the city not being relieved by a sea breeze, and from the system of building up confined courts and blind alleys, in which are crowded a large number of families, who are unable to avail themselves of the advantages of country air, when their children are attacked by these destructive complaints.

“Philadelphia, in common with many other cities and districts of the United States, has, within the past few years, suffered from epidemics of

scarlet fever, varioloid, small-pox, erysipelas, puerperal fever, and other less grave complaints, which appear to observe certain periodical cycles, the peculiar laws of which are not clearly understood. Our business is with the year just passed, 1850, and we will endeavour briefly to note the diseases which have prevailed during this period." (p. 30.)

The tables embodied by Dr. Parrish in the following passage, were prepared by Dr. W. Jewell from data furnished by the clerk of the Health Office.

TABLES OF MORTALITY IN THE CITY OF PHILADELPHIA AND
SURROUNDING DISTRICTS, FOR 1850.

Monthly Mortality in 1850, at various ages, from Birth to the Twentieth Year.

Month.	Under one year.	Between 1 and 2 years.	Between 2 and 5 years.	Between 5 and 10 years.	Between 10 and 20 years.	Total under 20 years.	Whole number for all ages.
January....	160	66	62	40	19	347	603
February..	168	57	67	32	31	355	579
March....	158	57	93	32	21	361	580
April.....	154	55	98	44	27	378	596
May.....	166	88	125	48	43	470	792
June.....	238	102	89	35	27	491	708
July.....	469	149	45	42	43	767	1041
August....	395	221	109	34	48	807	1150
September..	177	92	64	24	25	382	647
October....	179	73	57	30	26	365	701
November..	139	55	48	28	30	300	515
December..	149	47	54	29	26	305	558
	2552	1062	930	418	366	5328	8510

"The mortality in the first year of life is nearly fifty per cent. of the whole number of deaths under twenty years; and those deaths which occurred within the fifth year constitute over five-sixths of those under twenty years.

"The proportional infantile mortality, according to months, stands in the following order, beginning with the highest total: August, 807; July, 767; June, 491; May, 470; September, 382; April, 378; October, 365; March, 361; February, 355; January, 347; December, 305; November, 300.

*Condensed Table of Deaths from Epidemic, Endemic, and Contagious
Diseases, in Philadelphia, in 1850.*

	Male.	Female.	Boys.	Girls.	Highest rate of deaths in any one month.	Highest rate of deaths at different ages.	Deaths under 20.	Deaths over 20.	Total.
Cholera Infantum	274	229	274	229	224	July 319	2 and 5	503	503
— Morbus ..	16	8	3	3	13	July 7	30 and 40	6	18
Diarrhœa	104	104	77	69	57	Aug. 87	under 1 year	146	62
Dysentery	241	172	134	88	134	— 60	—	222	191
Erysipelas	25	29	11	22	8	June 22	—	33	21
Fever, Intermittent	12	4	8	2	4	Sept. 6	—	10	6
— Remittent..	24	26	7	14	9	Oct. 9	20 and 30	21	29
— Typhus....	46	29	5	9	9	Sept. 24	—	14	61
— Typhoid ..	70	37	20	14	17	Oct. 27	—	34	73
— Scarlet	232	207	232	197	62	Mar. 208	2 and 5	429	10
Measles.....	40	30	40	30	15	— 25	1 and 2	70	70
Small-pox	26	14	19	12	11	July 13	under 1 year	31	9
Hooping-cough ¹ ..	62	52	62	52	23	Aug. 54	—	114	114
	1172	941	892	741				1633	480
									2113

¹ Croup, 148. Variola, 40.

"Croup was omitted by accident in the preceding table, while syphilis, thrush, influenza, variola, and varicella have not been included, believing that the few deaths from these diseases would not materially alter the calculations on per centage.

"In the medical statistics, there will be found some few inaccuracies, but, by making allowance for such errors, the data will be found sufficiently correct as a means for arriving at the comparative prevalence of various diseases, and their fatality at different seasons according to population.

"The total number of deaths from zymotic diseases for 1850, including croup and small-pox, which are not inserted in the table, amounts to 2,301, which, to population, is as 1 to 162, or .617 per cent., or as 2.76, being 50 per cent. from all other sources of mortality.

"The maximum of deaths, in any given month, from this class of diseases, was in August, and amounted to 466. The minimum, in December, 100.

"561 of the whole number of deaths, equal to 1 in 4, or 25 per cent., took place in children under one year of age." (pp. 37, 38.)

PREVALENCE OF ABSCESSES AND BOILS. The great prevalence of boils having attracted attention on this side of the Atlantic, the following notices of the same occurrence in America are possessed of much interest.

Dr. Parrish, speaking of the city of Philadelphia in the latter months of 1850, remarks: "There was an extraordinary prevalence of abscesses, in the form of boils, occurring in persons not subject to such complaints, with many cases of anthrax and of paronychia." (p. 36.)

Dr. J. M. Pugh, in his report on the sanitary condition of West Philadelphia, says: "Abscesses, and *felons especially*, have been unusually common, mostly amongst young subjects, or youth arriving at adolescence. Frequently there would be some *exciting* cause (as bruises), but, from the frequency of their occurrence, I have been led to believe they originated in a *common* cause. The most likely that I have thought of, was the unusually changeable and *damp* weather, which was proverbial at that time." (p. 47.)

In the Report of the Montgomery County Medical Society, this passage occurs: "One of the inquiries sent out by the committee was, 'Has there been in your practice an unusual number of abscesses, felons, carbuncles, etc., and had it attracted your attention?' With a single exception, all reported affirmatively: one reports that he had, of perinæal abscesses alone, a dozen; another, who kept accurate notes, had, from May to the last of September, forty-two cases, comprising felons, carbuncles, and abscesses of the axilla, perinæum, thigh, face, and labia." (p. 78.)

In other reports, testimony is given to the same effect.

ERYSIPELAS. Interesting notices of this disease are contained in several of the reports. Its concurrence with the abscesses and carbuncles just described, with puerperal inflammations, and with scarlet fever, strengthen the prevailing opinion that in these diseases there is a relationship or community of origin. The brief remarks on treatment likewise merit consideration.

Dr. Parrish, in the report on the city of Philadelphia, says: "Dr. Lawrence Turnbull writes to the committee that, in February 1850, erysipelas appeared as an epidemic in the south-western sections of the city, most of the cases being traumatic, and probably dependent on atmospherical causes. Though severe, none of them were fatal. Medicines appeared to exert but little influence over the course and duration of the disease. A sustaining treatment proved more ameliorating than a depletive one. *Nitrate of silver*, applied externally, with a view of circumscribing the rash, completely failed; though, when applied in solution to the inflamed surface, it appeared to have a happy effect. *Tincture of iodine*, applied over a large surface of sound skin, appeared to arrest the inflammation in one or two instances." (pp. 31, 32.)

Dr. D. F. Condie, in his report from the district of Southwark, writes as follows :

"*Erysipelas* prevailed to a very great extent. Some of the cases were of considerable severity. The face and lower limbs, in adults, were the parts chiefly affected. In young children, it was principally upon the abdomen, nates, and thighs, that the disease occurred; though in them also the face was occasionally affected.

"*Scarlatina* made its appearance in the spring of 1851. It did not prevail to any great extent, and was limited to particular neighbourhoods. The cases which fell under our care were of the simple anginose form, and ran a favourable course. At the same period, though in different neighbourhoods, we saw a number of cases of an eruptive febrile disease, of a somewhat anomalous character. After a chill, sometimes slight and at others more severe, there occurred, over the whole surface of the body and face, an eruption precisely like that of scarlatina, but different in colour, being of a dark red or modena hue. Upon examination, the tongue and fauces were found now to be dry, and of a dark red colour. There was some difficulty in swallowing; and, when the patient was old enough to describe his sensations, a sense of heat and soreness of the throat was complained of. The skin became dry and hot, the pulse small, quick, and frequent, and respiration accelerated. During the evening exacerbations, there was some degree of delirium, alternating, in some cases, with slight coma. Under a judicious treatment, the fever and eruption disappeared entirely by the fifth day; the tongue lost its morbid hue, and became moist; and an extensive exfoliation of the cuticle took place. In other cases, small vesications occurred upon the surface, filled occasionally with a bloody sanies; the fever became then more continued, the pulse more feeble, and the coma more profound. Under an active stimulant and tonic treatment, these cases in the majority of instances terminated favourably. In other cases, the fauces assumed a darker hue, and finally became black and gangrenous, exhaling a most offensive fœtor. Such cases were invariably fatal.

"In the disease just referred to, there was a mixture of the symptoms of erysipelas and of scarlatina. The condition of the throat was dissimilar from that usually observed in the latter disease; there was no diphtheritic deposit, but an actual gangrene of the mucous membrane."

In the report of Drs. J. P. Hiester, L. L. Stewart, and D. L. Beaver, on the Topography and Diseases of Berks County, we find the following paragraphs.

"*Scarlatina*. A number of cases occurred in the city of Reading last spring, and occasionally during the summer, with a slight increase this spring. Nearly all, however, proved comparatively mild. A single case of some severity was treated by *inunction*, by a member of your committee, who was not impressed with particular favour by the course. He found it very objectionable, on account of its uncleanliness. This same member, who treated perhaps the gravest cases that occurred, is inclined to think very favourably of the external application of equal parts of black pepper, cubebs, and lard.

"After an emetic and cathartic, where emesis did not form a symptom of the first stage, the internal use of water, at the temperature of the chamber, acidulated with hydrochloric acid, with the addition of a sufficiency of sugar to make it pleasant, allowed *ad libitum*, appeared to have a very happy effect.

"*Erysipelas*. During the latter part of last winter, and this spring, a number of cases occurred in our city. In several instances it proved fatal."

HOOPING-COUGH. Various interesting remarks occur regarding this important disease.

In a passage contained in Dr. Parrish's report on the city of Philadelphia, there are some remarks upon the complication of whooping-cough with inflammation of the lungs, which we think most important. It is by counter-irritation that we chiefly attack the bronchitis and pneumonia; and when we

require to use a depressing medicine, we commonly employ the hydrocyanic acid, which will be found (with the exception of emetic action), to answer all the good purposes of ipecacuanha or tartar emetic, and to possess valuable properties as an antispasmodic. When the chest is loaded, it may require to be relieved occasionally, say once in twelve hours, by an emetic : but full doses of nauseating medicines, given at intervals, are much safer than a continuance of their use in small doses. In extreme pulmonary congestion, and threatened or actual inflammation of the lungs, cautious depletion with leeches is occasionally demanded ; but so far as our experience goes in several epidemics, bleeding is for the most part contra-indicated in the pulmonic complications of whooping-cough ; and even when we have applied leeches, we have generally seen cause to administer at the same time carbonate of ammonia, and that valuable medicine in whooping-cough—quinine.

Dr. Parrish remarks :—" *Pertussis* was quite prevalent during the spring and summer, and many cases continued on through the autumn. The disease was sometimes severe, and, when complicated with dentition or pneumonia, was often fatal. It appears, from the mortuary tables of the Board of Health, that twenty-four deaths occurred from this disease in the eighth month (August), and only one death in the first month (January). This fact would seem to militate against the opinion that whooping-cough is commonly fatal from the complication of inflammatory affections of the lungs, while it favours the idea that death in this disease more frequently happens from nervous exhaustion, as the latter is powerfully promoted by intense heat. An important practical suggestion may be derived from this fact, viz., that the early use of tonics, particularly of bark, with nutritious diet, and free exercise in the open air, are very important to counteract the tendency to exhaustion ; while depletion and nauseating medicines, to relieve fancied inflammation, should be carefully avoided. There is a condition of the respiratory organs which sometimes occurs in the course of an attack of whooping-cough, and which might readily be mistaken for inflammation by the inexperienced practitioner, but which is nothing more than high nervous irritation of these organs. The breathing becomes hurried and laboured ; the cough is suppressed, and loses, to a considerable extent, its paroxysmal type ; the child is languid, and excessively peevish ; the pulse feeble and very rapid, with a hot dry skin ; the appetite is gone ; and the whole aspect of the case is alarming. There is, however, on close observation, no distinct crepitant sound in the lungs ; the respiration, though exceedingly hurried, is not uniformly so, being more difficult at one time than another, and especially is it easier during sleep. The child is also more irritable than is usually observed in pneumonia, cries louder and more distinctly, and takes more notice of surrounding objects. We have frequently observed this condition to come on in the height of whooping-cough, and have believed that, were it treated by antiphlogistic and nauseating remedies, a fatal issue would often be precipitated ; while the free use of antispasmodics, such as assafoetida or oil of amber, and the constant administration of an infusion of bark, or of small doses of quinine, with fresh air, will relieve the spasmodic action of the lungs, restore the cough, and rescue the patient from the impending danger. How far these observations may accord with the experience of others, we do not know ; they are merely thrown out in this connexion for consideration."

We have only space for one other extract regarding whooping-cough ; and we quote it principally on account of the remarks on the use of *belladonna*, a medicine which we think is hardly sufficiently known in Great Britain, in the treatment of this disease.

" *Whooping-Cough* began to prevail in a large part of the county in October, and is now (January 1851) extensively prevalent. In addition to the remedies long in use, the *belladonna* is used by a few physicians with great benefit. Mumps also prevailed extensively in the same region, immediately preceding

the appearance of the pertussis. In this county there are several physicians who have used belladonna freely in whooping-cough, and believed it to be very superior to any other remedy in this disease; and yet but a single physician continues steadily to prescribe it. Why is this so; The reason they give is, that there is no responsibility in giving the old remedies. Is there then danger in giving belladonna? All testify that in their hands it has been safe. But to the *people* it is a *new* remedy, and requires care in its administration. In order to guard against excessive doses, you must make the nurse acquainted with the symptoms which you wish to produce, and those which you would avoid. To do this, is to awaken great fear, and to make the physician responsible for every mishap that may occur. To avoid this, a valuable remedy is neglected, and medicines proved valueless a century ago, are advised. This fear of trouble and responsibility makes us routinists, and greatly retards the advancement of our science."

QUININE IN FEVER. "Inordinate doses" are spoken of, and generally condemned. Twelve grains are spoken of as sufficient to arrest the paroxysm; and the *combination of tannin with the sulphate of quinine* is commended on account of its destroying the nauseously bitter taste of the medicine without interfering with its efficacy.

SMALL-POX AND VACCINATION. Dr. Jackson's "Report on Vaccine and Variola" is worthy of being specially noticed. After stating that "during the past year no tendency to an epidemic prevalence of small-pox had been manifested," statistical details are given;—after which the following remarks occur.

"While Europe and this country have been exempted from epidemic small-pox for the last four or five years, it has raged with excessive virulence in Bengal, particularly in the capital, Calcutta. In 1849-50 it destroyed 6100 persons, and during the first three months of 1850, the deaths were 3329, in a population of 387,398.

"The history of all the great universal epidemics has shewn their march to be most generally from the east to the west. It is not an improbable anticipation that this epidemic disposition or constitution that gives, where it prevails, new force to the contagious element of variola, may reach Europe and this country in two or three years.

"The best and the only safe means of guarding against the dangers and mortality attending the invasion of epidemic small-pox, is to give the greatest possible extension to the practice of vaccination. Experience has fully shewn that while it confers complete immunity on many, it imparts protection and contributes to the safety of the great mass of the community, by imposing a modification on the disease, mitigating its severity and restraining its activity.

"The plan for the gratuitous vaccination of the poor, adopted in this city and county districts, should be extended throughout the State. All corporate towns, it is believed, possess already the authority to appoint physicians for this purpose, and to pay for their services from the funds of the corporation.

"The county commissioners might be authorised by the Legislature, which should be memorialised to that effect, to appoint medical practitioners to vaccinate the poor, and to defray the expense from the county treasury. It is recommended that this Society and the County Societies combine to carry out this plan."

The portions of the volume devoted to MEDICAL REFORM deserve the highest commendation; and though the profession is in a much better state in this country, yet it is obvious that our transatlantic brothers are setting about the good work of purification with so much zeal and method, that unless we adopt similar exertions, the balance of ethical superiority cannot long be ours. The suppression of quackery is a Utopian dream; but its

entire separation from the profession is a practicable work, which must be gone on with now that it has been begun.

The following is from Dr. Worthington's Address. "Nevertheless, with all these difficulties, we have our remedy. It is not in the halls of legislation. The profession, with great unanimity, repudiate the idea of resorting thither for redress. They know the utter futility of seeking relief in that quarter. If they ever become exempt from the evils of quackery, it must be through their own efforts. Reform must begin and be carried on in their own body. Organisation here must be complete. They must purify their own household, and not trust the work to other hands. The public mind must be enlightened upon this subject; and who can do it better than medical men? If more intelligence is wanting among the mass, how is it to be imparted except by raising a higher standard of knowledge among ourselves? It is in vain to expect that a universal sentiment of admiration for the skill and wisdom of our profession will prevail, while we admit so many that are ignorant to wear our badge and receive our honours.

"The adoption of a higher standard of education, then, both preliminary and medical, is essential. Without this, we shall continue to grow worse instead of better. The public must be made to respect us for the high character of our attainments. They must be real, not pretended. The diploma must be a mark of true and genuine merit, not a mere license to practise the healing art.

"The profession seems to be awakening to the importance of this subject of reform; and, although some who are prominent among us may not cheerfully yield to the convictions of duty which actuate the mass, there is a general sentiment prevailing, that must eventually lead to great unanimity in urging forward this work of medical improvement. The views of the National Association must meet with universal approval. It is our Medical Congress, and should possess the power of directing such regulations as are required for the good of the whole. And, surely, its recommendations are entitled to a cordial response from medical men. A minimum standard, at least, should be fixed for the qualifications of those who are permitted to enter the profession. Let the schools go as far beyond this point in their requirements as they deem proper; but none should receive a degree who does not come up to this recognised standard." (pp. 26, 27.)

The following Report from Lebanon County depicts in a graphic manner the chaos from which the medical profession in some parts of the Union has yet to emerge; and, at the same time, it shews how much may be effected by honesty of heart and determination of purpose, amid the greatest possible discouragements.

"The delegates of Lebanon County take pleasure in reporting a re-organisation of their society, under very favourable auspices, in accordance with a resolution of the State Medical Society, and their adoption of a constitution and bye-laws, which have been duly approved by the censors of that honourable body.

"This Society was organised previous to the organisation of the State Society, and had its representation at its first meeting in the city of Lancaster. Owing to difficulties accruing from the number of regular physicians—whose regularity, however, consisted in their recognition, after some years' practice, without degrees, by respectable schools—professional etiquette, and an attempt to reduce the fees to a just and honourable standard, so far conflicted with their mercenary ideas of the practice of medicine, that the whole system flagged in energy, and the society fell through after a few monthly meetings. Prejudice, and fear of successful rivalry after the adoption of a "fee-bill"—when merit would seek its level, all things being equal—were too strong in the contest, and, although we take pride in the thought that a 'sturdy few' were found prepared to resist the shock. The general condemnation of the society compelled each, individually, to ground

his weapon, and wait a more favourable season. We think that season has arrived!

"Our county presents unparalleled resources, and, in variety of diseases, *novelties*, which, in professional interest, must eventually add increasing gems to the Parent Society's medical literature. It is rich in mineral resources; its agricultural position places it among the first counties of the State; and topographically viewed as to disease, each of its resources stamps its peculiar phases. A committee was appointed at our last meeting to report upon its medical topography; and we promise to present for the consideration of this Society, in our next annual report, certain forms of prevalent diseases, novel in aspect, with the statistics. Our members are few—strength is not to the *many*, but in unity of action. We are happy to say that our little band, scarce a 'corporal's guard', has already accomplished much in elevating the character of the profession, and diminishing the sales of '*nostrums*', which have flooded, in shapes of panaceas and vegetable pills, our community for the last score of years.

"The obstetric department, which had its hosts of '*old women*', whose rates of practice scarce equalled the almighty dollar, has fallen into the hands, almost exclusively, of the members of the profession; and their labours and humane efforts are beginning to be fairly appreciated and justly compensated. It is greatly to be regretted that we have as yet no measure, legally sanctioned, by which such meddlesome practice could be checked. Many are the cases in which the profession has been called *too late* to give assistance to the fair sufferer, whose life has been jeopardised in their hands. Many of the quacks have received their quietus by a due process of law for *mala praxis*, and their vain and shallow pretensions, fully exhibited to the public, has done much in ridding the community from the bane of quackery.

"The county numbers forty-five physicians, viz.:—

Graduates.....	18	Remainder—pow-wows, herb doc-
Not graduates, but having degrees	4	tors, unctuous doctors, urine-
Homœopaths	2	test doctors, and <i>old women</i> ...
Thermo-magnetic doctor	1	Total
		45"

We can better appreciate our own comparative advantages, when we read of the deplorable grievances of our brethren in other places; and we may also learn useful lessons for farther reformation, by examining the machinery by which good is being effected on the other side of the ocean.

LONDON AND PROVINCIAL MEDICAL DIRECTORY FOR 1852. pp. 671. London: 1852.

We regret to observe that the proprietor has included the homœopathic doctors, journals, and advertisements in his *Directory*. This appears to us to be a commercial blunder; and that it is an offence in the eyes of ninety-nine out of every hundred medical men in England and Wales, we entertain no doubt whatever. The editor's apology is thus put forth in the preface.

"We now come to the homœopaths; and although we may justly be called the guardians of the profession, and in every way desire to protect it from every species of quackery, we nevertheless do not feel ourselves justified in excluding from the pages of our work any who are licensed, and consequently duly qualified by law to practise their profession, and by age to think and judge for themselves. Indeed, we are assured by high legal authority, that we should subject ourselves to an action at law, for the wilful exclusion of any qualified medical practitioners."

The "high legal authority" must be in his dotage, if he declared it to be illegal to publish a list of medical men apart from homœopathists, and a list of medical journals excluding those of the quacks.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

PRACTICE OF MEDICINE AND PATHOLOGY.

MM. BARTHEZ AND RILLIET ON BRONCHITIS AND BRONCHO-PNEUMONIA IN CHILDREN.

MM. BARTHEZ and RILLIET have communicated an instructive article, on some points in the history of bronchitis and broncho-pneumonia in children, to the *Archives Générales de Médecine* for October and November 1851. The following is an abstract of their memoir.

In children, the inflammation of various portions of the respiratory passages is not so distinctly defined as in adults. The nares, larynx, trachea, the large and the capillary bronchial tubes, the pulmonary vesicles, and the tissue surrounding them, are often affected simultaneously, or in rapid succession, and generally from above downwards. Sometimes the affection radiates upwards and downwards from the trachea; more rarely the capillary bronchial tubes are first affected. In childhood, in fact, the organs are in a state of vital unity (*sont solidaires*), which is manifested in most morbid processes. At a more advanced age, the organs are more independent, and inflammations are more limited; and then each has its own characters and symptoms, the dyspnoea being in relation to the extent of the disease. In childhood, on the other hand, the dyspnoea, impending suffocation, and other formidable symptoms, attend inflammation of any part of the air-passages. The great nervous impressibility of children, the readiness with which febrile action is set up, the narrowness of the respiratory passages, the absence of expectoration, and the rapidity with which inflammation advances, partly explain the resemblance between several of these affections, which, in the adult, are perfectly distinct.

The want of distinction is in proportion to the youth of the child. In children, however, not yet two years old, it is possible to distinguish the three forms of bronchitis—mild, acute, and chronic, which we have described as occurring in older children. Certain cases of the acute form, as we shall presently shew, greatly resemble acute tracheitis.

M. Beau draws a distinction, founded on auscultatory signs, between bronchitis with *sibilant rhonchi*, and bronchitis with *bubbling* (mucous) *rhonchi*. The first form is heard in adults and old persons; it is common in persons who have been already affected, and is not severe. The second form is common in youth and infancy; it attacks weakened subjects, is not likely to recur, is accompanied with fever, and is attended with danger if the dyspnoea persists, and mucous rhonchus is heard in the trachea.

The authors of the memoir, however, do not entirely agree with M. Beau, in the marked distinction which he would draw between the two forms of bronchitis. And the difference in the severity of the general symptoms is much less marked in young children than in adults. When the inflammation is general, there is intense fever, and extreme oppression: and then the apparent severity of the two forms is equal. But, as to the real severity, MM. Barthez and Rilliet agree with M. Beau; and they explain the circumstance by the following facts.

Sibilant rhonchi depend on the presence of a viscous adherent mucus, which the column of air causes to vibrate, but does not displace; or rather on a partial thickening of the mucous membrane. The latter cause is denied by some pathologists, as MM. Beau, Barth, and Roger: but the sibilant rhonchus is sometimes heard too early for the mucus to have been secreted. Anatomical proof of the congestion is wanting; and it may disappear after death. But the proof may be found in other mucous membranes, as in the

congestion of the pituitary membrane in cold, which may end without any secretion, or may give rise to coryza. A similar congestion is very probably produced in the larynx of children, who awake suddenly, threatened with suffocation by laryngismus stridulus; and this congestion may terminate like that on the pituitary membrane. And it will be presently shewn, that this congestion may occur, and end in the same way, on the lower part of the respiratory tree. But this is only reasoning from analogy.

Viscid and tenacious mucus cannot, from its nature, be driven by inspiration towards the finer tubes. Where it is secreted, there it produces the sounds, which are readily propagated; so that there may be much noise, and alarming symptoms, though the lesion is slight. The intensity of the dyspnoea will readily be understood to be in relation to the capillarity of the tubes, to their number, and to the amount of obstruction. But we also know, that the tenacious secretion of mucous membranes is scanty; and that, when it increases in quantity, it becomes more liquid, and produces mucous rhonchi.

If the congestion extends rapidly over the bronchial ramifications, the symptoms will be more severe. But it is a frequent character of these congestions to disappear as rapidly as they have been produced; for however short a time they may be prolonged, they produce exudation, and then the rhonchi become mucous.

Bronchitis with mucous rhonchus (*bronchite bullaire*) is necessarily more severe than the sibilant form. The secretion is more abundant, and is more extensive; the inspiratory efforts force the fluid towards the capillary bronchi; the cough, weak or absent, is unable to expel the secretion, which is being increased every instant; and, if a large number of the capillary bronchi be attacked, death may rapidly take place. If the progress of the disease be less rapid, pneumonia may be developed: but this latter affection cannot follow in bronchitis with sibilant rhonchi.

The authors believe, that the difference between sibilant and mucous bronchitis is simply, that the former is the first stage, and the latter a more advanced one; and that the disease may be arrested in the former stage. Can the disease begin with mucous rhonchus? There is no proof; and the first stage may be very short, and may escape observation. Perhaps sibilant bronchitis may be most frequently idiopathic, and mucous bronchitis secondary; and this may be the reason why the latter is less common under one year of age, because measles, hooping-cough, typhoid fever, etc., are more rare under that age.

The authors have, however, observed some cases of idiopathic capillary bronchitis in very young children. They relate some cases, of which we can only afford space for summaries.

CASE I. X., aged 3, was attacked with capillary bronchitis; mucous rhonchi; impending suffocation; emetics, antimony, *pommade de Lausanne*, and leeches, were tried without effect. When the child was *in extremis*, Malaga wine with water, milk, and friction with an ointment of quinine and lard, were employed; marked good results and recovery followed.

There was no difficulty in the diagnosis. The capillary bronchitis was well marked; it was rather a mucous bronchitis. The symptoms were much like those which the authors have described as occurring in bronchitis in children of all ages, but much more severe. On the second day, the symptoms had attained their height. The disease pursued an alarming course; in less than thirty hours after the first attack, the state of the child was desperate. The Malaga wine was suggested by the remembrance of the good effects which sometimes follow the use of tonics *in extremis*: it probably saved the life of the child. The endermic application of sulphate of quinine has often proved useful in the severe catarrhal affections of children, when the fever is of the remittent type.

CASE II. B., aged 19 months, was attacked with slight catarrh; bronchitis, with sibilant rhonchus, appeared, threatening asphyxia; she was treated by emetics and antimony; and recovered.

In this case, the disease was soon cut short by the emetics ; and these are some of the best remedies which can be used in this form. Yet blood-letting may be required when the febrile symptoms run high, as in the following case.

CASE III. B., aged 4 years, was attacked with frequent paroxysms of fever, with cough and oppression ; slight catarrh ; subacute bronchitis, with sibilant rhonchus ; extreme dyspnœa ; very intense fever ; no improvement resulted from emetics ; the application of four leeches, two behind each mastoid process, caused rapid improvement.

Suffocative bronchitis, with sibilant rhonchus, is of the same family as spasmodic laryngitis. They arise from the same causes, are attended by the same symptoms, appear in the middle of the night, and most frequently end by a return to health, after a very short duration. The analogy is complete when bronchitis, with sibilant rhonchi, has been preceded by an attack of spasmodic laryngitis.

CASE IV. The patient, a child aged 14 months, was seized in the night with an attack of laryngismus stridulus ; a catarrhal cough, without fever or dyspnœa, continued for eight days. At the end of that time, tracheitis and bronchitis set in, with vibratory and mucous rhonchi intermixed ; there was intense fever and dyspnœa. The treatment consisted of antimony and blisters : the child recovered.

In this case, the symptoms of spasmodic laryngitis, of tracheitis, and of bronchitis, were evident. To the spasmodic laryngitis were referrible the nocturnal suffocation, and the harsh cough ; to the tracheitis, the difficult, painful, tearing cough, and tracheal stertor ; to the bronchitis, the sibilant and mucous rhonchi, and the intensity of the fever and dyspnœa. This case proves how insensible are the transitions, in children, from inflammation in one part of the air-passages to that of another. In this case, more good seems to have been done by the blister than by antimony.

CASE V. The patient, a male child eight months old, had a not very severe attack of nasal and bronchial catarrh : when he was suddenly seized with violent fever, extreme oppression, and frequent cough. The symptoms and physical signs (non-expansion on right side, with bronchial respiration, in addition to the bronchitic rhonchi) were now those of incipient pneumonia—or rather pulmonary congestion—with capillary bronchitis. These signs were removed in twenty-four hours, under the influence of ipecacuanha, calomel, and antimony ; and the cure was complete in two and a half days.

MM. Barthez and Rilliet consider that this case should be ranged among suffocative catarrhs. The child, while suffering from slight coryza, was seized, during the course of a mild bronchitis, with sudden and severe symptoms, which rapidly disappeared. The larynx was intact ; the principal seat of disease was evidently the lung. Auscultation had pointed out the existence of bronchitis, with sibilant and mucous rhonchi ; and, two hours after the severe symptoms had set in, the only appreciable difference consisted in the absence of pulmonary expansion throughout the right lung, and diminution of the murmur, with slight bronchial expiration, at the base. The first of these signs is well explained by rapid congestion, affecting the small bronchial tubes, and narrowing their calibre.

Did the rapidly supervening bronchial respiration indicate pneumonia with hepatisation ? Hepatisation does not take place so rapidly ; and requires certainly more than twenty-four hours to go through its stages. Was it the first stage of pneumonia—pulmonary engorgement ? In such a case, the vesicles still contain air, the lung is not solidified, crepitant rhonchus is heard, and there is not yet bronchial respiration and dulness. Was there pleurisy with slight effusion ? The presence of superficial rhonchi, and the rapid disappearance of the affection, negative this supposition.

A lesion, capable of preventing the air from entering the vesicles, of producing condensation of a part of the lung, and of causing bronchial sounds

to be transmitted, is to be sought for in an active and sudden congestion of the parenchyma surrounding the vesicles, which would have the effect of driving the air from them, and preventing its re-entrance. Moreover, one of the characters of these sudden congestions is to disappear rapidly; and hence, in the last case, the congestion disappeared, giving place to a mucous secretion in the finest bronchial tubes, and perhaps in the vesicles; as was evidenced by a fine subcrepitant rhonchus.

The authors remark, that this pulmonary congestion is by no means slow in coming on, and is connected necessarily with a weak constitution, or with lying long on the back. It occurs sometimes in robust children, at the commencement of suffocative catarrh, and may be simultaneous with bronchitis. This congestion, connected with capillary and vesicular bronchitis, agrees very well with the short, irregular, incomplete, frequent respiration, habitual in suffocative catarrh.

In such cases as the last, the powers are not destroyed, but are oppressed; but the local effect of this oppression is almost the same as that produced by real debility. Thus, the vesicles or the small bronchi being obstructed, the child cannot overcome the resistance to the entrance of air; hence arises a stagnation of blood in the capillaries, and a congestion, often hypostatic, follows, which may disappear as the breathing is relieved.

On a careful attention to these facts depend various therapeutic indications. In such severe cases, an error may be fatal; and it is still more painful to commit one, when the disease is really not one of those which entirely destroy the functions of an organ. Most commonly, all the danger lies in the obstruction to the entrance of air; when this is removed, there is almost nothing to oppose the return of health. It is certainly most important to ascertain whether the vital powers are only oppressed, or are really lost. In an originally robust child, having broncho-pulmonary catarrh, with active congestion, when the bronchi are not yet obstructed with abundant mucus, blood-letting is useful. But when the fine rhonchi denote the approaching formation of mucus, and when the aggravation of the disease is shown by the abundance of the nasal secretion, the vital powers of the child should be preserved. Emetics then produce sufficient depression; while their action necessitates deep inspirations, which are productive of benefit. The inspirations are also favoured by the warm bath, which induces cough, and also diminishes the febrile heat and irritation. Counter-irritation is also useful.

When the powers are really depressed, and asphyxia is imminent, whether from passive congestion or from want of energy, cutaneous revulsives and stimulant tonics may be of great service.

CASE VI. S., a lymphatic, large child, aged two years and four months, was seized with measles, preceded for some days by catarrhal symptoms. The eruption was not properly developed until the sixth day; on which day, physical signs of pneumonia were observed; they began to disappear about the tenth day. The principal features in this case, as noticed by the authors, are that there were several relapses of the pneumonic symptoms, and yet the child happily recovered. A few facts in this case require attention.

The eruption did not properly appear before the sixth day: on the fourth day, a few spots appeared, and soon vanished. At the same time, the cough increased, the respiration became frequent and irregular, arrested at expiration, as is generally the case in the broncho-pneumonia of children. The cutaneous eruption appeared modified by the pulmonary affection. The bronchial catarrh had been double; but the pneumonia appeared to be confined to the right side; this, however, is not absolutely certain.

MM. Barthez and Rilliet do not believe that there was hepatisation, but that the affection described by MM. Legendre and Bailly was present, viz., intravascular sanguineous congestion, capable of expelling the air from the pulmonary vesicles, and of rendering the organ sufficiently solid and impermeable to transmit the bronchial sounds.

The authors conclude with the following remarks on the remedies to be employed in the affections above referred to.

Emetics appear to do good in proportion to the *efforts* to which they give rise. Their benefit, however, has limits. When given inopportunely to weak children, or if their action is too prolonged and violent, they produce a state of depression which favours congestion.

Baths not only calm the fever, diminish the heat of skin, and favour perspiration; but also produce paroxysms of cough, necessitating deep inspirations, which tend to overcome the obstacle to the entrance of air into the vesicles. Yet baths, by being often repeated, may lose this effect.

Blisters and *Vichy-water* have been found useful, both as derivatives and as excitants.

CAILLAULT ON MOLLUSCUM CONTAGIOSUM, AND MOLLUSCUM PENDULUM.

M. CAILLAULT originally published his memoir in the *Archives Générales de Médecine*; we avail ourselves of the abstract given in *L'Union Médicale* for 2nd December 1851. The author proposes, first, to give the history of two varieties of acne, one of which has not yet been accurately described, and the other has been only mentioned; and secondly, to consider the nature of those cases which have been described under the name of molluscum.

MOLLUSCOID ACNE (*Molluscum Contagiosum* of Bateman) is pretty frequently met with in children, chiefly on the face and neck. It is characterised by small tuberculous-looking tumours, which, at first, may be confounded with warty excrescences; but a more careful examination reveals a normal colour of the skin, with an opaline semi-transparence; the tumours are sometimes slightly and very finely vascular at the base, and almost always resistant to pressure. Their size varies from that of a millet-seed to that of a pea. They are sessile, sometimes acuminate, but at other times filled out at the summit, and resembling mushrooms with a short thick pedicle and globular head. But their principal characteristic is the presence, either at the summit or on one side of the tumour, of an opening, of greater or less dimensions, which, either spontaneously or on pressure, gives exit sometimes to a milky fluid, sometimes to ordinary sebaceous matter. These tumours commonly commence with a small, scarcely visible papula, which grows slowly. As soon as it is perceptible to the touch, the central hole can be seen by the aid of a lens. Their growth is more or less rapid; and they vary in size from that of a hemp-seed to that of a pea, or even a small nut. It is when these tumours are large, sessile, slightly transparent, perfectly continuous with the rest of the skin, and having some sinuous vascularity at the base, that they resemble large tubercles; especially as, when they have arrived at maturity, there is usually some slight inflammation. The progress of these tumours is very variable, and essentially chronic; their numbers vary greatly; they will appear in successive groups, more or less confluent, of three, four, six, or more. The chief situation of these tumours is where there are many sebaceous follicles, round the natural orifices, as the eyelids, mouth, and nose; as well as on the neck, back, chest, and scrotum, and round the nipple.

Spontaneous cure of these tumours may occur in three different ways.

1. The follicles may become inflamed. The swellings become tender on pressure; the orifice enlarges, and sometimes the follicle appears to have been too full of sebaceous matter, and to be broken by the pressure from within. The sebaceous matter, opaque, granular, and mixed with blood, which exudes from the edges of the orifice, forms large crusts, which fall off, and leave round sanious ulcerated spots, like ecthyma, only seated on an elevation instead of being hollowed in the substance of the skin. After supuration has gone on for some time, mixed with *débris* of sebaceous matter,

the slight inflammation ceases, the edges become flattened, the base gradually gains the appearance of the rest of the skin, and, when the last crust falls off, there is a red and perfectly level cicatrising surface. The cicatrix is more distinct when the abscess has been formed on a large tumour; it is round, slightly depressed, with neatly defined edges, like a vaccine cicatrix.

2. Atrophy or ulceration of the pedicle may occur. When these tumours are of a globular form, presenting frequently a furrow gradually becoming deeper, which separates them from the rest of the skin, the narrow part, forming a very short pedicle, is subject to be twisted about by the tumour. The skin also, in the deep furrow, assumes the character of a mucous membrane; and, whether this be from spontaneous ulceration, or slight laceration of the pedicle, these tumours, when they have attained the size of a pea, always separate from the rest of the cutaneous surface.

3. The tumours may gradually pass into the form of *molluscum pendulum*.

The *prognosis* of molluscoid acne is not unfavourable. Its seat is evidently in the cutaneous follicles, which, under the influence of often inappreciable causes, grow slowly, and form these tumours. The milky follicular liquid, when examined with the microscope, is always composed of large epithelial cells with membranous nuclei, scattered among a large quantity of fat. The concrete sebaceous matter also consists of immense quantities of epithelial cells, arranged in pretty regular layers, concentric with the walls of the cavity. The distended follicles appear to be formed, as in the normal state, of an epithelial layer, a mucous membrane, and a resistant cellular membrane: blood-vessels are distributed in greater or less abundance in the walls, and furnish the secretion to these rudimentary glands. The disease is peculiar to children of weak, lymphatic, and scrofulous constitution: and the author does not hesitate to call it contagious. At the Hôpital des Enfants Malades, within three months after the admission of a child with the affection, fourteen little girls, out of thirty, were attacked in the same way: and the tumours were only situated on those parts, such as the face and neck, which were always exposed.

PEDICULATED ACNE (*Molluscum Pendulum* of Willan). This disease, which was pointed out by Tilesius in 1793, and described at a later period by Willan, consists of more or less numerous completely painless tumours, varying from the size of a pea to that of an orange; their progress is slow, and the form very variable, they being sometimes perfectly pediculated, sometimes globular and sessile, sometimes flattened. They resemble little moveable pouches attached to the surface of the body. They may swing about on the pedicle, without causing pain; on pressure, they have somewhat of a soft fluctuating feel. The skin covering them is not commonly changed in colour; at their extremity may often be observed one or more openings, marked by small dark points, and from which the sebaceous matter may be pressed out in a vermiform shape. After a long time, the tumours lose their follicular orifices, which have gradually contracted: at length the sebaceous matter becomes absorbed, leaving only the walls of the cyst, which may become more or less full of fat. This is a disease of old age.

The *treatment* of these varieties of cutaneous disease varies but little. The tumours of molluscoid acne may, according to their form, be either excised at once, or strangled by a ligature. The globular tumours should be opened with a lancet, and their cavity cauterised with nitrate of silver. Tonic medicines are indicated, most of the children attacked being of a weak lymphatic constitution. In the pendulous variety, surgical means can only be employed occasionally, when the tumours are not very numerous. If any, from their size or situation, become habitually troublesome, they must be excised, or an attempt may be made to produce obliteration of the cyst by inflammation.

DEVIATION OF THE ABDOMINAL AORTA AND HYPERTROPHY OF THE
HEART, PRODUCED BY AN HYDATID CYST OF THE LIVER.

The following case is reported in the *Union Médicale* for 5th August, 1851.

CASE. A woman, aged 60, was admitted into the Charity Hospital in Paris, under M. PIORRY, on April 24th. She was diagnosed to have hypertrophy of the heart, congestion of the liver, neuralgia of the chest and arms, bronchorrhœa, and hydræmia. She died on June 2nd.

AUTOPSY. The heart was in a state of concentric hypertrophy. The bronchial tubes were filled and blocked up with a white and very abundant frothy matter. It was the bronchorrhœa, and not the heart disease, that was the immediate cause of death.

In examining the liver, there were found two tumours, one small, the other the size of a fist. This first appeared, on simple inspection, to be carcinomatous. The larger tumour had absorbed the lobe of Spigelius; it was projecting, rounded, and covered by a whitish, fibro-cartilaginous envelope, enclosing a white granular liquid. There were also secondary envelopes, greyish, ovoid, elastic; which in their turn contained round transparent tumours, which were hydatids of the size of a nut, with echinococci in their interior. M. Piorry believed that this tumour had compressed and pushed aside the aorta: and, on placing the liver in its proper position, it was seen that the tumour corresponded exactly to a deviation of the aorta to the opposite side; and the renal arteries on the right side were also found to be increased in length.

This case was regarded by M. Piorry as an additional example of the difficulties of diagnosis of tumours in the region occupied by that one now described. It was probably of long standing.

The chain of pathological events, ending in death, was probably the following: 1. The tumour of the liver compressed the aorta; 2. This vessel was narrowed, from which resulted dilatation of its upper part, and hypertrophy of the heart. The latter lesion caused embarrassment in the lungs and bronchial tubes, giving rise to bronchorrhœa. Hence, the air not completely reaching the lungs, imperfect oxygenation took place, which gradually went on increasing till the process of aëration was perfectly suspended, and death took place.

AUTOPSY OF A FEMALE CHILD BORN WITHOUT EYES.

The case is related by M. SISSA in the *Gazetta Medica Lombarda*. The child was born on April 27, 1850, of healthy parents, and was in general well formed. The palpebral fissures, however, were observed to be only two lines in length. The orbital cavities were much smaller than usual, and nothing could be felt in them with the finger, but a small body as large as a grain of maize. The child refused the breast, and died five days after birth. An autopsy was made at the end of twenty-four hours.

The skull presented a protuberance in front, as if the two frontal bones had become joined by riding over each other. The sagittal suture was ossified between the frontal bones, and partly between the parietal; there was no bregma. The posterior parts of the skull were much developed: and the anterior parts were less ample than usual. The cerebral hemispheres were extremely soft—more so above than below. The two optic nerves at first seemed normal; but, after entering the orbit, they were lost in filaments in the cellular tissue, with which the cavity was filled. The tubercula quadrigemina and thalami optici were very small. There was no eye in either orbit. The lachrymal apparatus seemed perfectly developed; and the eyelids, though rudimentary, were furnished with puncta lachrymalia. The conjunctiva was present, and covered in the cellular tissue within the orbit. [*Gazette Médicale de Paris*, 30th August, 1851.]

DR. MOREAU ON THE SIGNS OF HEREDITARY TRANSMISSION OF
CEREBRAL DISEASE.

At the meeting of the Académie des Sciences in Paris, on December 15, 1851, Dr. MOREAU read a memoir on the hereditary predisposition to cerebral diseases, with the object of determining whether this predisposition could be recognised by any particular signs.

Before stating the results at which he had arrived, the author directed attention to certain zoological facts which he took as his starting-point, and which also explained the results he had obtained. They were as follows.

The manner in which the organisation of the parents affects that of the offspring, so as to produce resemblance, is subject to constant and invariable laws. Resemblance is not communicated from parents to children by the transmission of certain isolated *traits*, but rather by the transmission of two perfectly distinct and separately defined series of organs. One series comprehends the external configuration; the other comprehends the nervous functions. Transmission takes place according to fixed laws; when one parent gives one series, the other gives the opposite.

Applying this law to man, M. Moreau has ascertained that, in 164 cases out of 192, when pathological modifications of that part of the nervous system, specially connected with the intellectual functions, has revealed a hereditary resemblance to one of the parents, the external physical resemblance has been manifestly transmitted by the other parent.

He arrives at the following conclusions:—

1. The law of the hereditary transmission of series of organs is true, within certain limits, for man as for animals.
2. Cerebral affections and external resemblance are transmitted indifferently by either parent; but not commonly by both.
3. In a family, one or more of the ancestors of which have been insane, the hereditary disease will in all probability attack those of the children who present little or no resemblance to those with whom the disease has originated; while, on the other hand, it will spare those in whom there is a physical resemblance.

ECHINOCOCCI IN A LUNG.

Dr. NEGA relates the following case in *Casper's Wochenschrift* for 4th October, 1851.

CASE. C. P., aged 42, had been for twenty years troubled with shortness of breath, cough, and vertigo; for fifteen years he had had enlargement of the liver, dyspepsia, and frequent præcordial pain. On March 17th, he was admitted into the hospital at Breslau, with symptoms of lobular pneumonia of the right lung; and, on April 14th, he began, and thence continued, to cough up several hundred vesicular bodies of the size of peas. The elastic projection of the enlarged left lobe of the liver led to the conclusion that there were hydatids in that organ; and, as they were voided by violent vomiting, and the circumference of the left lobe of the liver was reduced at the same time, there was supposed to be a communication between the liver and the stomach. But, on May 15, after a copious emptying of the cyst, without efforts at vomiting, the part which had previously presented the physical signs of pneumonia, now presented the phenomena of a large cavity communicating with a bronchial tube; this was sufficient reason for referring the origin of the cysts to the lungs. The patient died on June 27, with symptoms of pleurisy of the left side and exudation in the arachnoid.

The right lung was in a great measure occupied by a large sac containing numerous echinococci. Below, the diaphragm was perforated; but effusion into the abdominal cavity had been prevented by adhesions to the liver. The latter organ was enlarged, but shewed no signs of fatty degeneration, nor of hydatids.

CARIES OF THE TEMPORAL BONE FOLLOWED BY DISEASE OF THE
BRAIN AND ITS VESSELS.

M. HUGUIER lately related the following case at a meeting of the Surgical Society of Paris.

CASE. A woman, aged 50, came under his care on September 26th: she had had disease of the ear for about two years. The right ear was the seat of considerable swelling, and gave escape to an abundance of very fetid pus. The meatus externus was destroyed. The concha was filled with a soft, bleeding, fungous growth. The patient had paralysis of the corresponding eye and side of the face, but not of the limbs; which were, however, very feeble. The intellect was dull: she answered questions with difficulty. On examination, M. Huguier found and removed a piece of a caoutchouc sound, which the patient had introduced some time previously, to prevent her ear from closing.

October 5. There was considerable hæmorrhage from the ear, requiring the plug. The bleeding was arrested; but, in a few hours, extreme weakness supervened, and was followed by complete paralysis of the limbs.

October 6. The patient could with difficulty answer questions.

October 7. There was hæmorrhage in the morning, and again during the day. The patient died at ten o'clock at night.

EXAMINATION OF THE CRANIAL CAVITY. The brain, at the level of the right temporal fossa, was of a blackish grey colour, and was softened, as if putrefied. The temporal bone was perforated, and allowed a part of the brain to form a hernia under the integuments. The dura mater was here destroyed. A portion of the cerebellum had undergone similar changes, and also formed a hernia. The whole of the petrous portion of the temporal bone, except the summit, was destroyed by caries; as was also the mastoid portion. The large cloaca thus formed opened externally through the meatus auditorius, and also communicated extensively with the cranial cavity; it was occupied by a mass of blood. The blood had penetrated into one of the lateral ventricles of the brain, and had passed thence into the other ventricles. The hæmorrhages had been furnished from the cavernous sinus, the superior and inferior petrous sinuses, and by the termination of the jugular vein. [*Union Médicale*, 18th October, 1851.]

QUARANTINE LAWS AND YELLOW FEVER.

REPORT by MM. MAGENDIE, LOUIS, and LONDE (Reporter), to the FRENCH NATIONAL ACADEMY OF MEDICINE, on a Work by JAMES GILLKREST, ESQ., M.D., etc., INSPECTOR-GENERAL OF ARMY HOSPITALS, entitled, *Is Yellow Fever Contagious or Not?*

The history of yellow fever is treated by Dr. GILLKREST with an erudition which it would be difficult to find equally complete elsewhere. After mentioning the observers and monographists who have described yellow fever, beginning with Hippocrates (who speaks of a fever characterised by yellowness of skin, and black vomit), Dr. Gillkrest arrives at these conclusions:

1. That the yellow fever of America, and that observed in the south-west of Europe, especially in Spain, are identical; an identity acknowledged by all authors, with the exception perhaps of our colleague M. Rochoux.
2. That this disease existed in the Antilles before 1793, and in the Spanish Peninsula before 1764.

Dr. Gillkrest next relates a great number of facts establishing:

1. That yellow fever, or at least its pathognomonic symptoms, have shown themselves at very remote points of the globe, and that they appear to be then developed uniformly under accidental or local conditions, so strongly marked as to exclude all idea of importation, in the true meaning of that word.

2. That sporadic cases of yellow fever present themselves, in ordinary years, in the localities where this disease has prevailed in an epidemic form. Dr. Gillkrest considers that this second inference is established by a certificate by the medical officers, who, on the 13th of April, 1829, at Gibraltar, declared,—after having read with the greatest care thirty-nine cases extracted from the records of the civil hospital,—that the symptoms detailed in these cases were perfectly identical with those observed in the epidemic which prevailed in that garrison in the latter part of the year 1828.

Having established these fundamental points, Dr. Gillkrest arrives at the grand question, contagion.

The author establishes, by numerous well-selected and incontrovertible proofs, that yellow fever is not contagious under any circumstances, not even in the case of crowding, in this disease, whether of the dead or of the living; that the removal of the individual from the influence of the local causes which produce this affection is the fittest means of preventing its extension; and, lastly, that the cordons, called sanitary, and quarantine measures, far from arresting yellow fever, on the contrary, favour its extension, by confining the population within the influence of the local causes which give it birth.

Such is the work on which we have to report. Dr. Gillkrest, in services which crown him with honour, and which on more than one occasion have been extended to our fellow-countrymen, brings to bear upon the question of contagion in yellow fever (a question so intimately connected with the most important interests of mankind), the fruits of a long experience, as was done formerly by our intrepid and ever to be regretted Chervin.

This communication of Dr. Gillkrest, which has already received the full approval of the General Board of Health in London, has reached us most opportunely at the moment when a Congress is assembled to suggest, no doubt, important modifications in our sanitary laws; consequently, gentlemen, your Committee has the honour to propose:—

1. To thank Dr. Gillkrest for his interesting communication.
2. To transmit his work to the Minister of Commerce, in order that, in conjunction with the numerous documents on this subject, already in possession of the administration, it may aid in placing beyond a doubt the inutility of quarantine, as applied to arrivals from countries where yellow fever prevails.

These resolutions were put to the vote, and adopted. [*Bulletin of the National Academy of Medicine*, vol. xvii, No. 2. 31 Oct., 1851. III, p. 39.]

SURGERY.

BLISTERS IN PHLEBITIS; AND ESPECIALLY IN PHLEGMASIA DOLENS.

M. GENDRIN states that, in cases of phlebitis following venesection, the disease will be arrested as if by enchantment, by the application of a large blister, the centre of which lies over the puncture.

The same effect, he says, is produced in *phlegmasia dolens*; which he regards as a phlebitis, originating in the hypogastric and external iliac veins. M. Gendrin has employed this remedy successfully in the Hôpital de la Pitié, in several cases of phlegmasia occurring in females after delivery. If the pain be very severe, and there be great hyperæmia, he also employs bleeding from the arm, several times if necessary. This facilitates the removal of engorgements, reduces the fever, and favours the re-establishment of the circulation in the part. [Abridged from *Journal de Médecine et de Chirurgie Pratiques*, October 1851.]

OBSTETRICS.

PREGNANCY COMPLICATED WITH CANCER OF THE CERVIX
UTERI: CÆSAREAN SECTION.

Since his communication to the LONDON JOURNAL OF MEDICINE for March 1851, of some instances of *labour complicated with Ulcerating Cancer of the Womb*, DR. OLDHAM has published, in *Guy's Hospital Reports*, vol. viii, part 2, some cases of the same affection. We will give an abstract of them.

CASE. CANCER OF THE UTERUS: PREGNANCY: CÆSAREAN SECTION: RECOVERY. S. L., aged 28, had had five children, the last two years before her admission into hospital on June 4, 1851. She was now in the seventh month of pregnancy. Since its commencement, especially after quickening, she had suffered from uterine pain, occasional hæmorrhage, and more or less copious discharge, sometimes thin and sanious, and at others thick and yellow.

On admission, her general health was not materially affected. The uterus was the seat of almost constant suffering, affecting the adjoining parts. The discharge was abundant, sanio-purulent, mixed with desquamated matter, and of a faint odour. The whole of the lower segment of the uterus, which could be felt by the finger, was converted into a mass of malignant disease, which appeared to nearly fill the upper part of the pelvis. The substance was hard, and broken into large lobes: the os uteri could not be felt with certainty. The anterior wall of the vagina protruded beyond the vulva, and was diaphanous from extreme thinness.

During the month preceding labour, the treatment was almost entirely directed towards removing the local suffering. Morphia was the principal sedative; and, when the pain was more than usually severe, chloroform acted most favourably.

During this time, the contraction of the body of the uterus, as in labour, was frequently noticed, and probably caused much of her suffering. When this was the case, the uterus became smaller, and perfectly hard: the foetal heart was at once heard with great clearness, and often the uterus would be observed to have moved from a distant right lateral obliquity, either towards the centre, or even to the left. Morphia, or a starch and opium enema, would relieve this; but the foetal movements, and irritation from the diseased cervix, would re-excite it; and, after a time, the uterus would remain in a state of tonic contraction for hours, both it and the abdominal surface becoming tender to the touch; when again it would slowly relax, and the foetal limbs again be felt.

July 2nd. At 3 P.M., after intense suffering, there was some dribbling of fluid, supposed to be liquor amnii. This continued during the evening and night, with unequivocal labour pains.

July 3rd. At 2 A.M. Dr. Oldham found that the effect of labour had been to press low down into the pelvis the cancerous mass, so that the anterior portion almost reached the external parts. The deep clefts were more patent; and one, which was considered to be the os uteri, allowed the finger to penetrate to its full stretch, without reaching the presenting part. The solid lobulated structure appeared to offer an insuperable impediment to any mode of delivery by the vagina; and it was therefore determined that the Cæsarean section should be performed. At this time (3 A.M.) her pulse was 100; the foetal heart was heard.

The size of the uterus was so much reduced by the escape of the liquor amnii, and by its powerful tonic contraction, that it did not reach more than two inches above the umbilicus itself. This was so marked as to limit the upper boundary of the external opening to the umbilicus, whence a straight incision, six or seven inches in length, was made in the median line, to within an inch of the pubes: the peritoneum was divided by a director. The

uterus, when exposed, was of a deep claret colour, firmly contracted, and felt particularly solid and condensed. A straight incision through the anterior wall was now made ; but, from the great resistance of the muscular structure, it was comparatively superficial, so that seven or eight cuts were required to divide the entire wall, which was nearly, if not quite, an inch in thickness. As this was being done, the slight irregularities in each sweep of the scalpel were made very conspicuous by the contraction of the divided fibres, which gave the incised surface a jagged appearance. During this part of the operation, the length of the incision was so much reduced by the contraction of the uterus, that it became necessary to prolong it slightly towards the fundus ; and, in doing this, the bleeding, which had hitherto been moderate, greatly increased, and a copious flow of venous blood, into which the florid blood of a large artery could be seen to stream, showed that the most vascular part of the uterus had been divided. Dr. Oldham introduced his hand, and, having broken through the membranes, tried to raise the head out first. This, however, could not be done, and an arm was then brought out. After the lower part of the incision had been slightly enlarged, the head, which had been difficult to remove, was extricated, and the placenta was readily separated and turned out. The emptied uterus sank towards the pelvis ; and the omentum, with the outer edge of a coil or two of intestine, slid through the upper part of the opening. The divided edges of the opening in the uterus kept apart, and the uterus itself was kept back towards the spine, losing much mobility by the mass of disease fixing it below. There was a good deal of bleeding from the upper part of the wound. Dr. Oldham cleaned the extravasated blood from behind the uterus, and wiped the intestines and peritoneum, while Mr. Poland applied sutures to the upper part of the wound. In this way, without disturbing the uterus too much, the bleeding was moderated ; and the external opening was closed by silk sutures, from half to three quarters of an inch apart. Plasters and lint were then applied. Throughout the operation the patient was kept insensible and perfectly tranquil by chloroform. Three grains of opium were given immediately, followed by a grain every three hours.

With occasional interruptions, the daily reports shew progressive improvement. On August 11th (the date of Dr. Oldham's paper), the external wound was about an inch and a half in length. The disease had somewhat shrunk since delivery ; the discharge was not very abundant ; she had been very free from the ordinary cancer pains, and her general health was well supported. A moderate menstrual bleeding had occurred.

The treatment throughout consisted chiefly of opium, which was gradually reduced in quantity ; occasional medicine, to meet particular circumstances ; rest, dressing the wound, and good diet, with wine and porter.

REMARKS. In the state in which the woman was when first seen by Dr. Oldham, should artificial labour have been induced ? With regard to this, he observes, that the operation itself of puncturing the membranes, with such a mass of cancer, would have been attended with great difficulty, and could hardly have been accomplished without considerable hæmorrhage from the breaking down of the diseased structure. But, even supposing this preliminary difficulty overcome, there was still the same solid obstacle to delivery through the os uteri, which the mere difference between the size of a foetal head at the seventh month and at term, would almost inappreciably lessen. Dr. Oldham therefore determined to leave labour to come on by itself, and to direct the treatment to alleviate pain and prevent premature contraction. In accordance also with the views which he had expressed in the *LONDON JOURNAL OF MEDICINE* for March 1851, he resolved to watch the first effects of labour on the diseased os and cervix ; and, if these shewed that natural delivery was impossible, and the child's heart beat, to have recourse to the Cæsarean section.

The incision was from below, not above, the umbilicus ; and the uterine

opening was comparatively small. Dr. Oldham believes it important to make the uterine opening as small as is compatible with delivery, and to enlarge it as the occasion may require, rather than at once to undertake the major operation, with its attendant risk of greater hæmorrhage.

Dr. Oldham also refers to another case, which had occurred to him since the publication of his paper in this Journal.

CASE. The patient, aged 36, had malignant disease of the cervix. The treatment proposed was to leave labour to come on spontaneously, and to support her. About two months after she was first seen by Dr. Oldham, copious hæmorrhages set in, attended at last by pains which she took to be those of labour. The movements of the foetal heart were lost; and the woman died, with prostration, in a few days; no distinct labour having supervened. On post-mortem examination, the foetus was found to be putrid; and the disease was confined to the cervix uteri.

Dr. Oldham would in this case, under circumstances as favourable as those present in the one before related, have performed the Cæsarean section. But the signs of the death of the child narrowed the practical question to the best means for preserving the feeble remnant of the woman's life. The patient was also much exhausted, and labour was imperfectly developed; she would probably have died under the operation, or, at best, would scarcely have survived many days or hours. Had the child been alive, Dr. Oldham would not have hesitated to perform the operation, or even if she had been suffering regular labour pains, which would have implied less exhaustion. Under the existing circumstances, however, there was yet the hope, if the patient's powers could be sustained long enough, that the child would be so flattened and moulded, that eventually it might be squeezed through the pelvis. With this view, the patient had opium and nutritious diet, and was kept free from excitement. In unyielding cancer of the cervix with pregnancy, when the practitioner is driven from delivery by the Cæsarean section, by the death of the child and the exhaustion of the mother, and when the uterus does not act as in labour, but closes by its tonic contraction upon the foetus, the process of flattening and reduction of the foetal structures, so as to pass through a small aperture, affords a reasonable expectation of ultimate delivery, which ought to be diligently promoted.

REMOVAL OF UTERINE POLYPI BY FORCEPS.

M. GENSOUL, in the *Gazette Méd. de Lyons*, recommends the use of strong forceps for the removal of uterine polypi. Taking the opportunity of the menstrual period, when the uterus is both lower down and more patulous, he introduces a pair of forceps, such as are used for nasal polypi. Encircling the pedicle in the gripe of the blades, he ties the handles, and leaves the instrument, with the embraced polypus, to drop off spontaneously.

REMOVAL OF UTERINE POLYPI BY THE COMBINED INFLUENCE OF PRESSURE AND CAUSTIC.

DR. M. M. O'GRADY contributes a paper on this subject to the *Dublin Journal of Medical Science*, for August 1851, p. 390. He employs nitrate of silver and a forceps.

The entire length of the forceps is ten inches, and that of the blades, measuring from the pivot to the extremities, five inches and a half, each blade terminating in a semi-tubular chamber of about half an inch in length, closed and rounded at the extremity, and open on the inner surface, so as to form a groove for the reception of a piece of caustic. [The part of the instrument in which the nitrate of silver is included, may be made of gold or platinum; or, for economy, a coating of gutta percha may be used.] Both chambers being charged, and the forceps shut, the caustic is completely enclosed; it is thus, with perfect safety, introduced into the vagina or os uteri.

When the blades are separated for the purpose of seizing the object to be operated upon, the caustic can come in contact only with the substance grasped by the forceps. Its action, therefore, is two-fold : first, the edges of the caustic chambers break down the vessels of the polypus by compression ; and secondly, the caustic decomposes its substance with great rapidity. The forceps is withdrawn as soon as all resistance to its pressure appears to have yielded ; and the parts are then washed out with a solution of carbonate or hydriodate of potash, which decomposes the caustic, and prevents its action on the parts. The patients so treated may, with the precautions usually adopted, be safely permitted to walk or drive out ; and Dr. O'Grady adds, that the operator will, at his next visit, find the polypus loose in the vagina, if not already discharged into the night-chair.

CASE OF OSSIFICATION OF THE UTERUS.

DR. KRAUSS relates the following case :

W. E., of Mergentheim, aged 76, unmarried, had had ascites for many years, and died of peritonitis on March 28th, 1850.

AUTOPSY. The body was generally emaciated. The lungs and heart were atrophied ; there was no trace of ossification in the heart and arteries. There was effusion in the abdomen, and the intestines were adherent. All the abdominal organs were atrophied, especially the liver, which weighed scarcely twenty ounces. In the place of the uterus, between the rectum and bladder, there was an osteoid body of the form of a pear, with a somewhat uneven surface, covered with peritoneum, and ending below in a cartilaginous mass, resembling the vaginal portion of the uterus, but without any trace of an opening. To the sides of the osteoid body, were attached the round ligaments and the Fallopian tubes ; the ovaries were represented by thin, narrow, partly ossified cartilaginous patches. The vagina was closed by a large membrane, probably the hymen. The ossified uterus, on being cut in two, was found to be of a partly porous texture ; and contained a cavity, with rough walls, of the size of a walnut. [*Medizin. Corresp.-Blatt von Württemberg*, as quoted in *Gazette Médicale*, 8th November, 1851.]

MATERIA MEDICA AND PHARMACY.

CROTON-OIL AS A COUNTER-IRRITANT.

M. BARELLAI finds that friction with croton-oil is not so productive of mischief as is feared by many. The pustules which it produces are smaller, and extended over a larger surface than those which result from tartarised antimony : they are more readily developed, and are less painful. They appear more rapidly, and are more elevated and confluent where the skin is covered with hair than where it is smooth. The pustules are very small on the back, larger on the abdomen, larger still on the chest, and very large, and like pemphigus, on the thighs and calves of the legs. Friction on the hypogastrium with croton-oil, although pustules are produced, does not induce purging. To obtain a purgative effect, a few drops of croton-oil may be placed on the skin, which has been previously denuded by a blister.

As much as four grammes (3i) of croton-oil may be employed to produce its pustulative effect, without fear of untoward accidents. [*Gazetta Medica Toscana*, as quoted in *Gazette Médicale* for 6th Sept., 1851.]

These remarks are not quoted on account of their supposed novelty to many readers ; but because they are entirely in accordance with our own observations, and refer to a practical matter, which, though one of detail, is not one of insignificance.

TOPICS OF THE DAY.

London, January 27th, 1852.

PROPOSED BILL FOR THE REGULATION OF MEDICAL PRACTICE. The Council of the PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION of England have published, in the number of the Association's Journal for 21st January, the Draft of a Bill "TO PRODUCE UNIFORMITY OF MEDICAL EDUCATION AND QUALIFICATION, AND FOR THE REGISTRATION OF THOSE LICENSED TO PRACTISE IN MEDICINE." In consideration of the extreme importance of this document, we lay it before our readers without the slightest abridgment. In our next, we propose briefly to glance at its more prominent features. In the meantime, we may state, that although we are not by any means prepared to say that the measure is faultless, we are so much impressed with the soundness of its general principles, and with the catholic and conciliatory spirit which it breathes, that we have no hesitation in giving in our adhesion to the views of its promoters. No comprehensive measure of medical reform affecting the interests of different classes of practitioners, of those in different localities, and of those belonging to different schools of medicine, can be acceptable to everybody in all its details; nay, in some of its particular provisions, the best measure may be disliked, because it may threaten to be injurious. Generous feeling, and mutual concession, must therefore be brought into extensive operation within our own ranks, before any bill can be obtained for the regulation of medical practice; and, especially, all petty class jealousies, and local interests, must be subordinated to the *maius bonum* of the medical commonweal. Conscientiously believing that the leading features of this new bill are sound and good—believing, moreover, that its framers are faithful friends of the profession,—we commend it to the earnest attention of our brethren; and we respectfully urge on those who with us concur in its general principles, to lend to it their hearty and energetic support; for without the general and active assistance of medical men, no measure affecting their interests can ever be carried through Parliament.

In reading the Draft Bill, it is necessary to bear in mind that the bill can only come into operation after the granting of the proposed new and liberal charters to the Colleges of Physicians and of Surgeons; but as these charters, as we are assured, only wait the sanction of the profession, their non-existence need not be considered as a source of difficulty or of objection.

DRAFT OF BILL, "TO PRODUCE UNIFORMITY OF MEDICAL EDUCATION AND QUALIFICATION, AND FOR THE REGISTRATION OF THOSE LICENSED TO PRACTISE IN MEDICINE."

PREAMBLE. Whereas it is for the good of all Her Majesty's subjects that the knowledge of physic and surgery should be promoted, and that means should be afforded whereby those who have been examined and found skilful by competent authority may be known from ignorant and unskilful pretenders to the same knowledge: And, whereas the laws now in force concerning the profession of physic and surgery require to be amended: Be it enacted, by the Queen's most excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same:

- i. *Repeal of Statutes.* (3 Hen. VIII, c. 11.) That an Act passed in the third year of the reign of King Henry the Eighth, intituled, "An Act for the appointing Physicians and Surgeons;" and also another Act (5 Hen. VIII, c. 6) passed in the fifth year of the same reign, intituled "An Act concerning Surgeons to be discharged of Quests and other Things;" and also another Act (14 & 15 Hen. VIII, c. 5) passed in the

Session of Parliament holden in the fourteenth and fifteenth years of the same reign, intituled "The Privileges and Authority of Physicians in London;" and also two Acts (32 Hen. VIII, c. 40; 33 Hen. VIII, c. 42) passed in the thirty-second year of the same reign, respectively intituled, "For Physicians and their Privilege," and "For Barbers and Surgeons;" and also another Act (33 & 34 Hen. VIII, c. 8) passed in the Session of Parliament holden in the thirty-third and thirty-fourth years of the same reign, intituled, "A Bill that Persons, being no common Surgeons, may minister Medicines, notwithstanding the Statute;" and another Act (1 Mary, Sess. 2, c. 9) passed in the first year of the reign of Queen Mary, intituled, "An Act touching the Corporation of Physicians in London;" and also an Act (6 & 7 Wm. III, c. 4) passed in the Session of Parliament holden in the sixth and seventh years of the reign of King William the Third, intituled, "An Act for exempting Apothecaries from serving the offices of Constable, Scavenger, and other Parish and Ward Offices, and from serving on Juries;" and so much of every other Act as continues the last recited Act; and also an Act (10 Geo. I, c. 20) passed in the tenth year of the reign of King George the First, intituled, "An Act for the better viewing, searching, and examining of all Drugs, Medicines, Waters, Oils, Compositions, used or to be used for Medicines, in all places where the same shall be exposed for Sale, or kept for that purpose, within the City of London or Suburbs thereof, or within seven miles' circuit of the said City;" and so much of another Act (18 Geo. II, c. 15) passed in the eighteenth year of the reign of King George the Second, intituled, "An Act for making the Surgeons of London and the Barbers of London two separate and distinct Corporations," as does not relate to the separation of the said corporations, or to the master, governors, and commonality of the mystery of barbers of London; and also so much of an Act (55 Geo. III, c. 194) passed in the fifty-fifth year of the reign of King George the Third, intituled, "An Act for better regulating the Practice of Apothecaries throughout England and Wales," as relates to the examination of apothecaries, or to the qualifications of persons intending to be examined or to qualify themselves under that Act to practise as an apothecary, or to the fees to be paid by apothecaries for the certificate of the Court of Examiners, or to the penalties for practising as an apothecary without having obtained such a certificate: and also so much of an Act (6 Geo. IV, c. 50, s. 2) passed in the sixth year of the reign of King George the Fourth as enacts, that all members and licentiates of the Royal College of Physicians in London actually practising; all surgeons being members of the Royal Colleges of Surgeons in London, Edinburgh, or Dublin, and actually practising; all apothecaries certified by the Court of Examiners of the Apothecaries' Company, and actually practising, shall be freed and exempt from being returned, and from serving upon any juries or inquests whatsoever, and shall not be inserted in the lists to be prepared by virtue of that Act; and also so much of any Act or Charter granted before the passing of this Act as prohibits any person from practising physic or surgery in any place without such license as is mentioned in such Act or Charter respectively, or as imposes any restrictions on the practice of physic or surgery other than is contained in this Act, shall be repealed and annulled.

II. *Interpretation Clause.* [To be inserted when the Bill is completed.]

III. *Appointment of the Medical Council for England.* That a Council shall be established, which shall be styled "The Medical Council for England;" and that the Regius Professor of Medicine in the University of Oxford, the Regius Professor of Physic in the University

of Cambridge, and such one of the Medical Professors in the University of London as shall be from time to time designated by the Senate of the last-named University, shall be Members of the said Council in right of their several Professorships; and that the other members of the said Council shall be six persons, to be chosen by the Royal College of Physicians of England (not more than three of such six persons being fellows of the said College), six persons to be chosen by the Royal College of Surgeons of England (not more than three of such six persons being fellows of the College), and six persons to be chosen by the Society of the Art and Mystery of Apothecaries of the City of London (not more than three of such six persons being members of the governing body of the Society); each of the said appointments to be made within one month after the passing of this Act; and the powers and duties vested in the said Council by this Act, may be exercised and executed by any six members thereof.

- IV. *Tenure of Office by Members chosen by the Colleges.* That every member of the said Council appointed by the said College of Physicians, the said College of Surgeons, and the said Society of the Art and Mystery of Apothecaries, shall be entitled to be a member of the said Council for three years, and shall then go out of office, but may forthwith be re-chosen; and that upon every vacancy among the members of the said Council, appointed by the said College of Physicians, the said College of Surgeons, and the said Society of the Art and Mystery of Apothecaries, and their successors, the said College of Physicians, or the said College of Surgeons, or the said Society of the Art and Mystery of Apothecaries, as the case may be, shall appoint another person to supply such vacancy.
- V. *Appointment of the Medical Council for Scotland.* [To be inserted hereafter.]
- VI. *Tenure of Office by Members of the Medical Council of Scotland.* [To be inserted hereafter.]
- VII. *Appointment of the Medical Council for Ireland.* [To be inserted hereafter.]
- VIII. *Tenure of Office by Members of the Medical Council for Ireland.* [To be inserted hereafter.]
- IX. *Expenses of the Members to be paid.* That there shall be paid to the members of the said several Councils, such reasonable expenses incurred by the said members in the performance of their duties under this Act, not exceeding three guineas for each attendance, as shall from time to time be allowed by the said several Councils.
- X. *Each of the said Councils to Elect a President and Vice-President.*—That the said Councils shall, as soon as may be after they shall have been appointed as hereinbefore provided, meet at the following places: that is to say, the Council for England at the building of the Royal College of Physicians in London, the Council for Scotland at the building of the Royal College of Physicians at Edinburgh, and the Council for Ireland at the building of the King's and Queen's College of Physicians in Ireland, and shall each of them elect one of their members to be their president, and another of their members to be their vice-president; and in all cases every question brought before any of the said Councils, shall be decided by a majority of votes (the president, or, in his absence, the vice-president, having a vote), and in the event of an equality of votes, the president, or, in his absence, the vice-president, shall have an additional or casting vote.
- XI. *Each of the Councils to appoint an Examining Board.* That each of the said Medical Councils shall, within a month after their first meeting, appoint such fit and proper persons as the said Councils may severally choose, to form an Examining Board for the purpose of car-

rying into effect the provisions of this Act ; and every member of such Examining Board shall be paid such yearly salary as the Council by whom he shall have been appointed shall think fit, and shall hold office for such period as the said Council shall determine.

- XII. *Provisions as to the appointment of a Treasurer, Registrar, and Secretary, and of Clerks and Servants, and for the making of a Seal by each of the said Councils.* That each of the said Councils shall, within a month after their first meeting, appoint a fit and proper person to be their treasurer, and also another fit and proper person to be their registrar and secretary ; and there shall be paid to each of such treasurers and registrars such yearly salary as the Council by whom he shall be appointed shall think fit ; and each of the said treasurers and registrars shall be removable at the pleasure of the Council by whom he shall have been appointed ; and each of the said Councils shall also, from time to time, appoint such clerks and servants as they may deem necessary for the purposes of this Act ; and every person so appointed shall be removable at the pleasure of the Council by whom he shall have been appointed, and shall be paid such salary as the Council by whom he shall have been appointed shall think fit ; and each of the said Councils shall cause to be made a seal for their use in the execution of this Act, and shall cause to be sealed or stamped therewith all licenses granted or issued by them in pursuance of this Act, and all such licenses and other documents purporting to be sealed or stamped with any such seal shall be received as *prima facie* evidence in all courts and places whatsoever.
- XIII. *As to Registration of Medical Practitioners in practice before the passing of this Act.* That the registrar of each of the said boards shall, within thirty days after his appointment, and shall from time to time, till the first day of February, one thousand eight hundred and fifty-three, proceed to register, in books to be kept for that purpose, on payment of a fee of five shillings, the name and place of abode, together with a description of the testimonials of every physician, surgeon, and apothecary who shall apply to be registered, and who, prior to the first day of November, one thousand eight hundred and fifty-two, shall have taken a degree in medicine in any English, Irish, or Scotch University, or who shall state his place of abode and apply to be registered, and shall produce his diploma, certificate, or license, or shall produce a duly attested certificate, or such other proof as shall be satisfactory to the said registrars, of his having obtained a diploma, certificate, or license to practise as a physician, surgeon, or apothecary, dated prior to the said first day of November, one thousand eight hundred and fifty-two, and granted by any English, Irish, or Scotch College or Hall, or any corporation sole or aggregate in England, Ireland, or Scotland, legally entitled to grant the same at the time of the passing of this Act, and also to every person who shall apply for the same, and who was actually practising medicine in England and Wales prior to the first day of August, one thousand eight hundred and fifteen, and who shall sign a declaration according to the form in schedule (A) to this Act annexed, and also to every surgeon and assistant-surgeon of the army and navy who shall apply for the same, and whose warrant of appointment bears date prior to the said first day of August, one thousand eight hundred and fifteen, and to every person who shall have been registered as aforesaid the said registrars shall give a certificate according to the form in schedule (C) to this Act annexed, and which certificate shall be in force till the first day of February, one thousand eight hundred and fifty-three, and no longer.
- XIV. *Every Person not Registered as aforesaid to present himself before the*

Council of his country for Examination. Licenses to be granted to those duly qualified on payment of a Fee of £10. That each of the said Councils shall meet at least once in every four weeks, for the dispatch of business ; and every person not being registered under the provisions of the next preceding section of this Act, who intends to practise medicine after the first day of February, one thousand eight hundred and fifty-three, shall present himself before the Medical Council for the country in which he intends to practise, and if such Council shall consider the person so presenting himself to be properly qualified as hereinafter is mentioned, they shall direct their registrar to grant to such person a license according to the form in schedule (B), to this Act annexed, on payment of a fee of ten pounds ; and shall also register, in books to be kept for that purpose, the name and place of abode of such person, and shall also give to such person a certificate according to the form in schedule (C), to this Act annexed ; and which certificate shall be in force until the first day of February then next ensuing, and no longer ; and every person to whom such license shall have been granted as aforesaid, shall be entitled to assume the name and title of a licentiate in medicine, surgery, and midwifery.

- XV. *Candidate for Licenses to produce Testimonials to the Medical Council.*—That every person who may present himself before any of the said Medical Councils for the purpose of obtaining a license to practise medicine, shall produce proofs to the said Council that he has attained the age of twenty-one years, and shall also produce such testimonials as shall be satisfactory to the said Council, that he has applied himself to the study of medical and surgical science during a period of four years, and that during the aforesaid period he has passed at least three years in some University or Medical School, approved of by the said Council ; and that he has attended such courses of dissection, such clinical and other lectures, and such hospital practice, and has passed such several examinations before the Examining Board appointed by the said Council, as the said Council shall from time to time appoint.
- XVI. *Triennial Medical Congress to be held.* That once in every three years each of the said Medical Councils shall depute three of their members to form a Medical Congress, for the purpose of fixing an uniform curriculum of study, in accordance with the next preceding section of this Act, to be gone through by all candidates for licenses to be granted by the said Councils respectively ; and such Medical Congress shall meet in London at such place and time as the Medical Council for England shall determine ; the first Medical Congress to be held as soon as may be after the election of the said several Medical Councils.
- XVII. *Registrars to Issue Annual Certificates to Registered Practitioners, on payment of a Fee of 20s.* That the registrars of each of the said Councils shall from time to time issue a certificate, according to the form in schedule (C), to this Act annexed, to every person who shall be registered as aforesaid, and who shall apply for such certificate ; and the said registrars shall issue such certificates for the countries only for which they shall be severally appointed to act : and every person shall, upon his application for such certificate, pay to the registrar a fee of twenty shillings ; and such certificate shall bear date on the first day of February then next ensuing, and shall continue in force during one year, and no longer.
- XVIII. *All Monies received by the Registrars to be applied for the purposes of the Act.* That all monies received by the registrars of the said several Councils shall be paid over to the treasurers of the said several

Councils; and shall be applied to defray the expenses of carrying this act into execution, in such manner as the said Council shall direct; provided always that one half of the monies received on account of the certificates hereinbefore mentioned shall be applied to the formation of a Medical Provident Fund for England, Scotland, and Ireland respectively, under the direction of the said several Councils; and every person who shall have been registered under this Act, and shall have obtained a certificate during ten years, or, in case of his death, his widow or children, shall be entitled to claim relief from the Council of that part of the United Kingdom in which he shall have been registered, out of the Monies of their Medical Provident Fund.

XIX. *Application of Surplus Income.* That if, after paying the expenses of carrying this act into execution, any surplus income, other than the monies hereinbefore directed to be applied to the formation of a Medical Provident Fund, shall remain in the hands of the treasurer of any of the said Medical Councils, such surplus shall be applied for the founding or establishing of medical scholarships or prizes, or in promoting the advance of medical science and literature, in such manner as such Medical Council shall determine.

XX. *Each Registrar to keep a record of Certificates.* That the registrar of each of the said Councils shall duly record an account of every certificate which he shall issue as aforesaid; and in the month of February in every year shall cause to be printed a correct register, according to the form in schedule (D), to this Act annexed, of the names and places of residence, arranged alphabetically, of all persons to whom he shall have so issued certificates during the year then last past, according to the provisions of this Act, together with a description of the legal qualification or qualifications, with the date or dates thereof, of all persons registered under the thirteenth section of this Act, and specifying the date of the license granted by the Council, and the degrees and diplomas with the date or dates thereof, possessed by all persons registered under the fourteenth section of this Act; and such registers shall be respectively called, "The Medical Register for England," "The Medical Register for Scotland," and "The Medical Register for Ireland;" and a printed copy of the register for the time being, so published as aforesaid, shall be evidence in all courts, and before all Justices of the Peace and others, that the persons herein specified have obtained certificates according to the provisions of this Act; and the absence of the name of any person from such printed copy shall be evidence, until the contrary be made to appear, that such person has not obtained a certificate according to this Act.

XI. *Registered Persons Entitled to Practise where Certificates are Issued; and to Transfer their Names to the Register of other parts of the United Kingdom.* That every person who shall be registered, and shall possess a certificate in force, according to the provisions of this Act, shall be entitled to practise medicine throughout that part of the United Kingdom for which his certificate was issued; and every person who shall be registered in one part of the United Kingdom may transfer his name to the register of any other part of the United Kingdom in which he may be about to practise, on production of the register of the last-named part of the United Kingdom of his licence and certificate for the current year; and the registrar shall thereupon grant to such person so transferring his name a certificate which shall remain in force till the first day of February then next ensuing.

XXII. *No person to assume the Name of Physician or Surgeon who is not duly qualified.* That no person shall be entitled to assume the name or style of Physician who is not, in England, a member of the Royal

College of Physicians of England, or in Scotland, a member of the Royal College of Physicians of Edinburgh, or in Ireland, a member of the King's and Queen's College of Physicians in Ireland; and no person shall be entitled to assume the name or style of a Surgeon who is not, in England, a member of the Royal College of Surgeons of England, or in Scotland, a member of the Royal College of Surgeons of Edinburgh, or in Ireland, a member of the Royal College of Surgeons in Dublin; and if any person shall, after the passing of this Act, assume the name or style of a Physician or Surgeon, without being entitled to do so as aforesaid, he shall, on conviction before any Magistrate having jurisdiction in the county, city, or place where the offence was committed, forfeit and pay a sum not exceeding five pounds, nor less than forty shillings, for every such offence, to be recoverable within three months next after the commission of the said offence.

XXIII. *Registered Persons Entitled to Charge for Advice and Visits.* That all persons who shall be registered and possess certificates according to the provisions of this Act, shall be entitled to demand and recover in any Court of Law, with full costs of suit, reasonable charges for medical or surgical advice, visits, and medicines, rendered or supplied by them to their patients, without any other license than such registry and certificates.

XXIV. *None but Registered Persons to Recover Charges.* That after the first day of February, one thousand eight hundred and fifty-three, no person shall be entitled to recover any charge in any Court of Law for any medical or surgical advice, attendance, or for the performance of any operation, or for any medicine prescribed, administered, or supplied by him, unless he shall prove upon the trial either that he is in possession of a certificate in force, according to the provisions of this Act, or that he was legally practising in the capacity in which he claims such charge at the time when the debt was incurred.

XXV. *Persons not Possessing Certificates Incapable of Acting as Medical Officers in Public and Other Situations.* That, after the first day of February one thousand eight hundred and fifty-three, no person who does not possess a certificate in force, according to the provisions of this Act, shall be capable of holding any appointment in any part of the United Kingdom, in the capacity of a Physician, Surgeon, Apothecary, or other medical officer, in any hospital, infirmary, dispensary, lunatic or other asylum, lying-in hospital, gaol, penitentiary, house of correction, house of industry, parochial or union workhouse, or poorhouse, parish, union, or other public establishment, body, or institution, or to any friendly or other society for affording mutual relief in sickness, infirmity, or old age.

XXVI. *Summary Penalty against Unregistered Practitioners.* That, if any person shall, after the first day of February one thousand eight hundred and fifty-three, act or practise as a Physician, Surgeon, Apothecary, or licentiate in medicine, surgery, and midwifery, in any part of the United Kingdom, without being duly registered according to the provisions of this Act, and without having a certificate as aforesaid in force at the time of his so practising or acting as a Physician, Surgeon, Apothecary, or licentiate in medicine, surgery, and midwifery, he shall, on conviction before any magistrate having jurisdiction in the county, city, or place where the offence was committed, forfeit and pay a sum not exceeding five pounds, nor less than forty shillings, for every such offence, to be recoverable within three months next after the commission of the said offence.

XXVII. *Expulsion of Registered Practitioners for Disgraceful Conduct, or Irregular Practice.* That, if three registered practitioners shall at

any time complain to the Medical Council of any part of the United Kingdom, or to the Council of any College or other governing body, that a person who had obtained his license, diploma, or qualification from such Medical Council, College, or body, had been conducting himself in a manner calculated to bring scandal and odium on the profession, by publishing indecent advertisements or pamphlets, or immoral or obscene prints or books, or had been guilty of any other disgraceful and unprofessional behaviour, or of any irregular practice, the said Medical Council, College, or other governing body aforesaid, are hereby empowered to cite the person accused before them, first giving him due notice, and a full statement of the charges against him; whereupon the said Medical Council, College, or other body, having heard the defendant, and on being satisfied that the charges have been proved, or in default of his appearance, having decided that the charges have been proved, they are hereby required to erase the name of such person from the books or rolls of the said Medical Council, College, or other institution, as the case may be, and shall transmit forthwith to the registrar of that part of the kingdom to which such Medical Council, College, or other institution belongs, an official report of their decision, authenticated by the seal of such Medical Council or College; and the said registrar shall thereupon strike out the name of the offending party from the register in his custody, and it shall ever afterwards be excluded from every register to be kept under the provisions of this Act, unless the Medical Council, College, or other governing body by whom the name was first erased shall re-admit it into the books or rolls of such Medical Council, College, or other institution. Provided always that the name of no person who may be possessed of a license granted by a Medical Council according to the provisions of this Act, shall be erased from the register, unless the registrar receive from such Medical Council an official decision to that effect, authenticated by their seal.

XXVIII. *Penalty for the Wilful Falsification of the Record of Certificates by any Registrar.* That if any Registrar under this Act shall wilfully make or cause to be made any falsification in any matters relating to any register, certificate, or record aforesaid, every such offender shall be deemed guilty of a misdemeanour in England and Ireland, and in Scotland of a crime and offence; and shall, on conviction thereof, be sentenced to be imprisoned for any term not exceeding six months.

XXIX. *Penalty for Obtaining Certificate by False Representations.* That if any person shall wilfully procure or attempt to procure a certificate from any Registrar, by making or producing, or causing to be made or produced, any false or fraudulent representation or declaration, either verbally or in writing, or shall, by any false or fraudulent means whatsoever, possess, obtain, use, or attempt to possess, obtain, or use, any certificate as aforesaid, every such person so offending, and every person aiding or assisting him therein, shall, upon being convicted thereof, be adjudged guilty of a misdemeanour in England and Ireland, and in Scotland of a crime and offence; and thereupon it shall be lawful for the Court before whom such offender shall be tried and convicted to sentence such offender to be imprisoned, with or without hard labour, for any period of time not exceeding six calendar months.

XXX. *Penalty for Falsely Pretending to be a Medical Practitioner.* That every unregistered person who shall wilfully and falsely pretend to be, or take or use the name or title of, a physician, doctor, bachelor of medicine, surgeon, or apothecary, or any name, title, addition, or description, implying that he is registered under this Act, or that he is recognised by law as a physician, or surgeon, or apothecary, or a

practitioner in medicine or surgery, shall, on being convicted of every such offence, before any Magistrate having jurisdiction therein, pay a sum not exceeding ten pounds nor less than forty shillings, to be recoverable as hereinafter described.

XXXI. *How Penalties are to be recovered; if not paid, the Offender may be Committed.* That any Justice of the Peace acting in and for the county, city, or place in which the offence has been committed, or any Magistrate appointed by virtue of an Act passed in the second and third years of the reign of Her Majesty Queen Victoria, intituled "An Act for Regulating the Police Courts of the Metropolis," or one of the Justices of Peace Courts in Scotland, may hear and determine any complaint charging any person with practising medicine, without a certificate, as aforesaid, on the oath of one or more witnesses, or by the confession of the accused party, and shall award the penalty or punishment herein provided for such offence; and in every case of the adjudication of a pecuniary penalty under this Act, and of non-payment thereof, it shall be lawful for the said Justice or Magistrate to commit the offender to any gaol or house of correction within his jurisdiction, for a term not exceeding one calendar month, when the sum does not exceed forty shillings, and for a term not exceeding three calendar months when the sum does not exceed ten pounds, the imprisonment to cease on payment of the sum due.

XXXII. *Application of Penalties.* That any sum or sums of money arising from conviction and recovery of penalties for offences committed against the authority and provisions of this Act, shall be paid to the Medical Council for that part of the United Kingdom in which such conviction shall take place.

XXXIII. *Examiners may take Candidates to Hospitals, etc.* That each of the said Examining Boards, or any members or member thereof, shall be empowered to attend with the candidates for licenses in the public hospitals, or other public institutions containing sick and diseased persons, and also in any workhouse, with the view of ascertaining the practical knowledge of such candidate in the science of medicine.

XXXIV. *Act not to deprive the Colleges of Physicians in London, Edinburgh, and Dublin, nor the Colleges of Surgeons of England, Edinburgh, and Dublin, of the privilege of conferring Degrees and Diplomas.* That not anything in this Act contained shall deprive the Royal College of Physicians in London, the Royal College of Surgeons of England, the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, the King's and Queen's College of Physicians in Ireland, or the Royal College of Surgeons in Dublin, of their respective rights to grant degrees or diplomas in medicine or surgery; but such degrees and diplomas shall not, after the first day of February, one thousand eight hundred and fifty-three, confer on any person possessing them, or either of them, the right to practise as a medical practitioner in any portion of the United Kingdom.

XXXV. *Provision for existing Students.* That it shall be lawful for the said several Medical Councils to make regulations for dispensing with such provisions of this Act as to them shall seem fit, in favour of Medical Students who shall have commenced their professional studies before the passing of this Act.

XXXVI. *Act not to affect the Trade or Business of Chemists and Druggists.* That not anything in this Act contained shall extend, or be construed to extend, to prejudice or in any way affect the trade or business of a chemist and druggist in the buying, preparing, compounding, dispensing and vending, drugs, medicines, and medicinale compounds, wholesale or retail, without the giving of medical or surgical advice.

XXXVIII. *Registered Medical Practitioners exempted from serving on Juries,*

Inquests, etc. That every person who shall be registered and possess a certificate in force, under the provisions of this Act, shall be exempt, if he shall so desire, from serving on all juries and inquests whatsoever, and from serving all corporate, parochial, ward, hundred, and township offices, and in the Militia, and that the name of such person shall not be returned in any list of persons liable to serve in the Militia, or in any such office as aforesaid; and no person shall be entitled to such exemption as aforesaid, on the ground of being a physician, surgeon, apothecary, or licentiate in medicine, surgery, and midwifery, who does not possess such certificate then in force as aforesaid.

XXXIX. *For certain Offences, names of Medical Practitioners to be erased from the Register.* That if any registered medical practitioner shall be convicted in England or Ireland of any felony, or in Scotland of any crime or offence inferring infamy, or the punishment of death or transportation, or if it shall be found, by the judgment of any competent court, that any such medical practitioner shall have procured a certificate under this Act by any fraud or false pretence, or that any such medical practitioner has wilfully and knowingly given any false statement, evidence, or certificate, in any case in which by law the evidence or certificate of a physician, surgeon, apothecary, or licentiate in medicine, surgery, and midwifery, is required, the registrar of each of the Medical Councils, on the production before him of an office copy or extract of the conviction or judgment of the court, duly certified under the hand of the proper officer of the Court, or other proof thereof, shall cause the name of such medical practitioner to be erased from the register; and every person whose name shall have been so erased, after such conviction or judgment as aforesaid, shall thereby forfeit and lose all the privileges of a registered medical practitioner provided by this Act.

SCHEDULE (A). Declaration of a person who claims to be registered as a medical practitioner, upon the ground that he was in practice as a medical practitioner before the first day of August, 1815:—

To the Registrar of the Medical Council for England. I, [Samuel Baker,] residing at [6, Duke Street, Exeter,] in the county of [Devon,] hereby declare that I was practising as a medical practitioner, at [16, George Street, Hastings,] in the county of [Sussex,] before the first day of August, 1815.

(Signed)

[SAMUEL BAKER.]

Dated this [6th] day of [November] 1852.

SCHEDULE (B). *License to Practise Medicine, Surgery, and Midwifery.* This is to certify that [Herbert Jones] has been carefully and deliberately examined as to his skill and abilities in the science and practice of medicine, surgery, and midwifery, and as to his fitness and qualification to practise the same, by the Examining Board appointed in pursuance of an Act of Parliament passed in the [] year of the reign of Her Majesty Queen Victoria, intituled "An Act to produce Uniformity of Medical Education and Qualification, and for the Registration of those Licenced to practise in Medicine"; and the Medical Council for [England] have, by virtue of the powers vested in them by the said Act, directed this License to be granted to the said [Herbert Jones,] certifying that he is duly qualified to practise medicine, surgery, and midwifery.

(Signed)

[JOHN FAIRBROTHER,]

President of the Medical Council for [England].

(Signed)

[HENRY BROWN,]

Registrar of the Medical Council for [England].

Dated this [3rd] day of [March], 185 .

SCHEDULE (C). *The Medical Register for [England]. Medical Registration Certificate for 185 .* In accordance with the provisions of an Act of Parliament, passed in the [] year of the reign of Her Majesty Queen Victoria, intituled, "An Act to produce Uniformity of Medical Education and Qualification, and for the Registration of those Licenced to Practice in Medicine," I hereby certify that [James Howard], residing at [No. 15, Ormond Street, Manchester], in the county of [Lancaster], (having produced, before me, the Diploma of [the Royal College of Physicians of England] granted to him [April 18th, 1840], as [a Fellow of that College]), or (having signed, before me, a Declaration according to the form in Schedule (A), to the said Act annexed), or (having produced, before me, the Licence of the Medical Council for [England] granted to him the [4th] day of [May] 185), he has been duly registered, according to the provisions of the said Act, as a person who is qualified to practise Medicine in any part of [England and Wales], and that he is entitled to exercise all the powers and privileges conferred by the said Act.

This Certificate to remain in force until the 1st day of February, 185 , and no longer. (Signed) [HENRY BROWN],

Registrar of the Medical Council for [England].

Dated this [1st] day of [February], 185 .

SCHEDULE (D). *The Medical Register for [England], consisting of the names and places of residence (arranged alphabetically), with a description of the qualifications, and the dates thereof, of all persons legally qualified to practise medicine in [England], in the year 185 .*

The Names of Registered Medical Practitioners (arranged alphabetically).

Names.	Qualifications and their Dates.	Places of Residence.
ADDISON, JAMES	Diploma as a Fellow of the Royal College of Physicians of England, dated 9th August 1836	No. 16, Tudor Street, Manchester.
ADLARD, HUGH	License from the Medical Council for England, dated 3rd April 1853	No. 7, Milton Street, London.
ADNEY, RALPH	Declaration, as required by law, of having practised as an Apothecary before the 1st day of August 1815	The Grove, Camberwell.
ADPART, EDMUND	License of the Society of Apothecaries, London, dated 11th June 1834	No. 40, Tolville Street, Leeds.
ADWIN, GILBERT	License from the Medical Council for England, dated 2nd May 1853; Diploma as a Member of the Royal College of Surgeons of England, dated 5th July 1854	No. 19, Milsom Street, Manchester.

HOMŒOPATHY. The homœopathists are now in their right place—without the pale of the profession. They are, however, determined to put a good front on their ignominious doom; and, as a last hope, they have united all their strength in making a demonstration to that wonderful conclave the Town Council of Edinburgh. On this side of the Tweed it may not be generally known, that with a few casual exceptions, the municipal council of Edinburgh consists of tradespeople, who possess (in virtue of their office) the patronage of the city churches, as well as of the College chairs of theology, law, literature, and medicine. The Lord Provost also is Rector of the University; and on one memorable occasion—Thursday, the 11th of January, 1838—to shew his power and dignity as holder of that office, he astonished the students, the professors, and the whole town, by calling out the military,

to quell a snow-ball battle! The gallant 79th can boast of the battle of the Quadrangle as well as of Salamanca and other glorious fields. In fact, if the metrical version of Major Young's address to his men on that brilliant occasion can be relied on, the laurels won in the Peninsula are less prized than those gained in Edinburgh.

On our flag Salamanca's name no more
Shall be read with the joy it was before;
For the boast of the 79th shall be

THE BATTLE OF THE UNIVERSITY!

These silken folds with honest pride shall show
Our worthy prowess at the Fight of Snow.¹

We derive the following report of the proceedings of the Town Council regarding the petition of the homœopaths from the Edinburgh newspapers of the 14th and 15th of January.

A petition to the Town Council was read from certain graduates of the University of Edinburgh and others, relative to the granting of medical degrees to intending homœopathists. It stated that a student, named Alfred Crosby Pope, having in the middle of June underwent the usual written examination on medicine and surgery, was subjected to an oral examination. His surgical knowledge, it was stated, was evidently defective; but his answers on *materia medica* and clinical surgery were satisfactory. He was then interrogated as to a rumour of his intention to become a homœopathic practitioner, when he replied:—'I am not now a homœopathist; but, after graduation, I mean to inquire into the truth of homœopathy.' He further avowed his intention, in the event of his becoming a homœopathist, to keep his diploma, to show that he had regularly studied. In medical jurisprudence, as in surgery, Mr. Pope was found to be defective: and the case having been referred by the examiners to the whole Medical Faculty, they unanimously resolved, as grave doubts were entertained as to the soundness of Mr. Pope's principles of practice, and from his insufficiency on some subjects of examination, that he should be remitted till the end of July, by which time he would have ample opportunity of making the inquiry into the truth of homœopathy. The result was that Mr. Pope withdrew from the list of candidates. The petitioners alleged that in requiring from any candidate an explicit pledge limiting his future course of study and practice, the Medical Faculty have made a fundamental change in the conditions under which degrees in medicine have hitherto been granted. They therefore pray the Council, as Patrons of the University, to cause the irregularity complained of to be brought under the notice of the Senatus, that such attempts to interfere with the free liberty of students of medicine may be prevented in future.

A circular, signed by Dr. J. Rutherford Russell, accompanied the petition, stating that it (the petition) has been signed by 3337 men,² most of them heads of families, among whom are nine peers, viz., the Earl of Airlie, the Earl of Wilton, the Earl of Wilton, the Earl of Roden, Lord Gray, Lord Kinnaid, Lord Lindsay, Lord Colville of Culross, the Earl of Erne, and the Bishop of Down and Connor; five members of Parliament, viz., Lord Robert Grosvenor, Lord Newport,

¹ UNIVERSITY SNOW DROP; AN APPENDIX TO THE GREAT TRIAL. With magnificent embellishments. Richard Weston and Son, 37, Lothian Street, Edinburgh: 1838. Those who are interested in the Edinburgh Snow-Fight, Edinburgh Professors, Students, and Town Council, ought to read the *Snow Drop*, also the *University Maga* of the same date, as well as a pamphlet entitled *Report of the Trial of the Students, on the charge of Mobbing, Rioting, and Assault, at the College on January 11 and 12, 1838*; published at Edinburgh in 1838.

² Some papers give 3283 as the number of signatures.

Mr. Elliott Lockhart, Mr. John Ellis, and the Hon. C. P. Leslie ; one hundred and one physicians and surgeons (twenty-six being graduates of Edinburgh) ; one hundred and ninety clergymen (one of them being the Rev. Alfred Pope, Leamington, the father of the aggrieved student) ; forty-seven magistrates, and sixty-seven military and naval officers.

BAILLIE FIFE said, the only thing which could be done with the petition was to send it to the College Committee for consideration. He thought it would save trouble if they were also empowered to communicate with the Senatus.

MR. DICK (*veterinary surgeon*) said, with regard to the principle involved in the petition, he could not speak decidedly. He was not a homœopathist, but he had been trying the effects of the system for some time past, and as far as he had gone he thought it was a mere humbug ; but he would not decide definitely till he had tried it further. He might mention, that belladonna, one of the principal medicines used by homœopaths in the millionth part of a grain, he was in the habit of giving to horses in quantities of two or three drachms.

MR. SCLANDERS (*cabinet maker*). But, Mr. Dick, remember that it is to horses ; and there is a difference between a man and a horse.

MR. DICK. There is not such a difference between some men and a horse. (*Laughter.*)

MR. RIDPATH (*confectioner*) thought it was full time that the patrons were taking up this matter. It was absurd to tell them that when a man came to be licensed as a medical practitioner, he was to be bound to say in what way he was to practise. If he was qualified to pass the necessary examinations, the Medical Faculty had no right to ask him whether he was to be a physician, a confectioner, or a grocer. He agreed in the propriety of sending the matter to the College Committee ; but he disapproved of their having any communication with the Senatus on the question.

MR. GRAY (*butcher*) concurred in the latter part of Mr. Ridpath's speech. The Town Council had been told that they knew nothing about these matters ; but he (Mr. Gray) would show the Senatus that the patrons could manage the matter without going to them at all.

The petition was, after some further discussion, remitted to the College Committee of the Council.

Mr. Gray's next speech on homœopathy is likely to be valuable ; and if it be reported in the Edinburgh newspapers it shall be transferred to our pages. In the mean time, we would beg respectfully to call his attention to the following extract from *Punch*, which, though the language be jocular, contains sober truth, equally worthy of the attention of enlightened butchers and "enlightened earls".

"THE PATENT MEDICINE HOSPITAL. The subjoined advertisement is earnestly recommended to the attention of the nobility, gentry, and clergy who patronise the homœopathic hospital, and homœopathy and homœopathists at large ; and who might just as well patronise a hospital conducted on the principles of patent medicines :—

"THE philanthropic gentlemen who wish to purchase Dr. G——'s Miraculous Recipe (*and make a fortune by establishing the health of the people*), can be introduced to hundreds, who, after being given up for death by their medical attendants, are now *one, two, three, and four* stones heavier, although physicked powerfully every day during their being cured, and using from ten to forty pills each dose. For particulars apply to Dr. G—— and Sons, at —— Street, Glasgow, where they give free advice to their patients.

"Messrs. N——, G——, agents for Edinburgh ; more of whom are wanted at home and abroad."

"Here is a chance for the 'philanthropic gentlemen'—and ladies—to whom we appeal. Let them not pooh-pooh us with the put-off that Dr. G—— is a quack. What right have they to call him so? Have they ever tested the powers of his 'Miraculous Recipe'? Was not Galileo scouted and persecuted, from prejudice, without investigation? Ditto Columbus? etc., etc. If infinitesimal globules are not too difficult for their deglutition, why should they refuse to swallow G——'s pills—aye, by forties at a dose? Dr. G——'s pretensions may be inconsistent with homœopathy. But then, homœopathy is inconsistent with physiological, pathological, therapeutical, and pharmaceutical facts. If *Punch* is wrong in stating this, the nobility, gentry, and clergy above alluded to, do not know that he is not right. They have never studied the laws of health and disease. What do these duchesses and other persons of quality of either gender know about the science of medicine? Yet they think no geese of themselves for forming an opinion on that subject, into which they have not inquired, in opposition to the judgment of those who have made its study the business of their lives. Personal recovery, after recourse to an alleged remedy, without reference to the question of *post hoc* or *propter hoc*, is sufficient for them. Then, why not try G——'s pills? They will not take upon themselves more decidedly than they do at present to contradict the Colleges of both Physicians and Surgeons; both of which bodies, by patronising homœopathy, they virtually declare themselves to regard as composed of blockheads or impostors. By all means, then, let them do the same justice to Dr. G—— that they do to Dr. Globules, and that the scientific and enlightened Earl of Holloway did to Professor Aldborough." [*Punch*, January 24th, 1852.]

Numerous medical societies throughout the kingdom are passing resolutions repudiative of homœopathy; and in an early number we propose to publish a list of all the bodies in Great Britain and Ireland who have taken this step, so far as they are known to us.

The resolutions of the SOCIETY OF APOTHECARIES deserve to be reprinted in this place. If the Court of Examiners had been appealed to earlier, they would doubtless have given forth an equally satisfactory and explicit expression of opinion.

"The following reply was forwarded to the Memorial presented to the Court of Examiners of the Society of Apothecaries, by the Medical Society at Sunderland, on the subject of homœopathy.

"The Court of Examiners of the Society of Apothecaries of London, having taken into their careful consideration the important memorial forwarded to them by the Medical Society of Sunderland, regret to find that, as a collective body, they have no power to prevent the diffusion of medical theories and modes of practice, which the Court, in common with the greater portion of their medical brethren, believe to be unsound, and to be calculated to delude and deceive the public.

"But they have no hesitation, as individuals, in expressing their decided opinion as to the mischievous tendency of the doctrines referred to in the memorial; and they need hardly add, that in their capacity as Examiners, they would refuse their certificate to any candidate who professed, during his examination, to found his practice on what are called homœopathic principles.

"Signed by order of the Court,

Jan. 8, 1852.

"HENRY BLATCH, Sec."

QUACK ADVERTISEMENTS. It is grievous to see members of the medical profession, not only admitting into their families newspapers containing obscene and swindling quack advertisements, but even sending their books to be reviewed by journals notorious for these disgraceful publications. We

observe with sorrow that a reputable physician allows his really good work to be advertised on the front page of a weekly medical journal, with a laudatory extract from an evening paper, a profitable branch of whose business it is to set forth the claims of the Manly Vigour scoundrels. This laxity ought not to prevail; and, as medical journalists, we cannot pass it by in silence.

The *Critic* of January 1, publishes the following letter from Dr. Cormack. The determination of the editor, if carried out, may enable the *Critic* to supply the want which has been long felt, of a literary journal which could be introduced into families, without injuring morals and destroying health by the nastiness, quackeries, and swindling baits of its advertising columns.

"To the Editor of The Critic."

"SIR,—From the enlightened views and excellent tone which pervade your paper, I feel confident that you will not be inattentive to a remonstrance which I now make against *The Critic* being rendered instrumental in fleecing your incautious readers by the luring advertisements of quacks. The admirable and comprehensive summary which you give, of all that is passing in the literary and scientific world, makes your paper an invaluable medium of family instruction; and it cannot be a matter of indifference to you that, from any oversight in the commercial department, your work should sometimes be made the medium of presenting to the public the cheating baits of impudent empirics. I know that you do not desire to give place in your columns to such announcements; for some time ago, when I stated that Holloway's advertisements were inconsistent with the character of a high-toned literary and scientific journal, you not only listened to my expostulation, but took such measures as prevented their being again inserted. I wish that cheating advertisements of pills, ointments, and nasty books, were regarded by members of the medical profession, and by fathers of families, with the abhorrence which they deserve; but so long as some London, and many provincial newspapers, teeming with the worst and most indelicate matter of this kind, are allowed to lie on the drawing-room tables of our gentry, the conductors of these papers are certain not to refuse them a place. It is, therefore, because I believe *The Critic* to belong to a higher class of periodicals, that I now address you; and, as illustrations are often better than abstract arguments, I subjoin for your information a brief statement.

"The following advertisement appeared in *The Critic*:

"A speedy cure for Stone and Gravel will be sent to any person by enclosing thirteen stamps to Thomas Wilkinson, Land Agent, Gainsborough, Lincolnshire."

"A patient of mine, who is an intelligent gentleman, and one of your subscribers, sent thirteen stamps to Thomas Wilkinson, and received the following reply:

"Dear Sir,—Your 13 stamps are recd. and beg to say Instead of a Dose of Egyptian Drops I will send the recipe for 36 stamps more and full directions how to Mix and Take it. Drops will dissolve the Stone and bring it away in Sand Quiet easy speedy cure is certain your respy Thomas Wilkinson Land Agent."

"This reply so much incensed my patient, that he at once intimated to Mr. Wilkinson that he would publicly expose him, if he did not give the 'speedy cure' in an available form; whereupon, in reply, the following evasive epistle was received, which I may state has not induced the invalid to discontinue appropriate treatment.

"Dear Sir,—Yours is recd. recipe return'd. 1 oz Barbadoes Tar 1 oz Balsom Sulphur 1 oz Linseed oil 1 do. Spirits Turpentine. On receiving the stamps full Directions will be returned. Yours respy Thomas Wilkinson Land Agent."

"I need hardly add, that the recipe is nonsense; and even were it a good prescription, the want of directions for its use would render it valueless to a patient. The offer of a cure, therefore, for thirteen stamps, cannot arise from a delusion on the part of the 'land-agent' as to the efficacy of his nostrum; and is simply a clever method of obtaining money—not certainly for value received.

"I am, Sir, yours, etc.

"JOHN ROSE CORMACK, M.D.

"Essex House, Putney, Dec. 23, 2851."

[“We thank Dr. Cormack for his communication. Assuredly, the advertisements of Mr. Wilkinson shall not again appear; and, as regards all advertisements, vigilance as to their character shall be exerted.—ED. CRITIC.”]

A two-penny monthly publication is announced by Charles Gilpin, of 5, Bishopsgate Street, entitled, “THE JOURNAL OF PHYSICAL REGENERATION.” Its aim is stated to be purely philanthropic: and we are inclined to believe this averment to be true from reading in the prospectus, that “*no advertisements of quack medicines can be admitted.*” The pecuniary sacrifice, which such a determination involves, would ruin half of the second-rate provincial newspapers, and greatly cripple some of those of better standing, by whom the indecencies of their disreputable clients are veiled, but not rejected. Matters, indeed, are so managed by all the newspapers—even by those which call themselves religious—that few moneyed advertisers are turned away.

CHOLERA AND SMALL-POX IN JAMAICA. CHOLERA still lingers in Jamaica. It has been observed to appear with damp, and to disappear temporarily with drought. In the *Falmouth Post* of 26th December, we read that a few cases of cholera have lately occurred, (one on the previous day); and that in the agricultural districts—at Water Valley and Dry Valley estates, and in the village and neighbourhood of Duncan’s, the disease prevails. At Good Hope and Nightingale Grove, SMALL-POX has made its appearance, and many persons are being vaccinated daily. This dreadful scourge has also attacked upwards of 300 persons in Stewart Town and its vicinity, where twenty-one deaths are reported—eleven being adults, and ten children.

NEW JOURNALS. A valuable addition to pharmaceutical literature has recently appeared—viz., the *CHEMICAL RECORD*, published weekly in London. It is always on a level with the most recent discoveries and improvements, and is edited with great spirit and ability. It has no fault but that of being too scientific for the mass of chemists and druggists, to whom a more superficial work would, we fancy, be more acceptable. To physicians, and others, who cultivate chemistry in its higher branches and more difficult applications, this journal will be of much use. The *ANNALS OF PHARMACY AND PRACTICAL CHEMISTRY* is another work which deserves to be spoken of with approbation. It appears monthly: and the first number was published on the 1st of January, 1852. The first number of the *MEDICAL CIRCULAR*, a fortnightly journal, appeared on the 14th of January. It is the property of the proprietors of the *Medical Directory*; is under the same management; and is intended, we fear, to promote the same loose views regarding the profession which are set forth in that work, and to which we have briefly alluded at p. 174 of this number.

TO CORRESPONDENTS. The next of the series of articles by DR. C. J. B. WILLIAMS, will appear in our March number: and in an early number, one of MR. WHITE COOPER’S Clinical Essays on Diseases of the Eye—a series to be illustrated by wood-cuts.

APPOINTMENTS, OBITUARY, and BOOKS RECEIVED are unavoidably delayed till next month, on account of want of room.

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ORIGINAL COMMUNICATIONS.

ON THE ENDOSMOTIC ACTION OF MEDICINES.

BY CHARLES COGSWELL, M.D.

(Read before the Medical Society of London, Dec. 20, 1851.)

THE celebrated attempt of M. Poiseuille to illustrate the mode of Action of Medicines by reference to the laws of Endosmose and Exosmose, in his memoir entitled "*Recherches Expérimentales sur les Médicaments*", in the *Comptes Rendus* of the French Academy of Sciences for 1844, led to the following inquiry; my intention being to take up the subject where he had left off, and to carry it further into detail. In repeating his experiments, however, as nearly as could be judged from the description, I perceived sources of fallacy attending some of the results, which quite destroy their value as examples of the phenomena to which they are compared. Even in the case of the saline purgatives, where the analogy appears to be the strongest, we may be allowed to question whether too much influence is not attributed to one agency of a purely physical nature, in producing effects on the living organism, which are more probably due to a combination of causes. On the other hand, some remarkable varieties of endosmose have come under my observation, coinciding with the peculiar properties according to which the substances concerned take their places in the classification of medicinal agents, and thus calculated, though on different grounds from those stated, to justify the opinion that endosmose really plays no unimportant part in the reactions which follow the presence of medicines in the system.

As a general result of the original investigations of Dutrochet, it may be stated, that when two miscible fluids of different density are separated from one another by a porous medium, two currents are established, one of greater intensity towards the denser fluid, and the other in the opposite direction. From the nature of the conditions under which they first attracted his notice, he was led to distinguish them by the names of Endosmose and Exosmose, signifying an impulse

inwardly and an impulse outwardly. He became convinced, however, that these terms had been unfortunately chosen, by such proofs as the following. If a piece of intestine, closed at both ends and filled with a solution of gum, be immersed in water, it becomes distended by the stronger current inwards, here properly called that of endosmose. But if the relative position of the fluids be reversed, the solution of gum being exterior, the stronger current is then directed outwards, and the weaker towards the interior of the cavity. Dutrochet expresses his regret for the too hasty adoption of terms which are thus calculated to convey a wrong impression; but, as they had got into general use, he prefers allowing them to remain, with the understanding that endosmose refers solely to the stronger, and exosmose to the weaker current. According to Poiseuille, when a fluid is taken into the stomach, it comes in contact with the epithelium of the mucous membrane; and penetrating this, it enters into relation with the capillaries of the villousities. A double current ensues; part of the serum passes through the walls of the vessels and mingles with the foreign fluid, while some of the latter enters the blood, and is carried into the circulation. If the mutual interchange is equal, no alteration occurs in the bulk of the fluid on either side; but if there be an endosmose of the serum towards the bowels, an accumulation takes place in the latter; they contract, to get rid of their contents, and the foreign fluid thus acts as a *purgative*. The opposite effect is said to be produced when the stronger current proceeds from the bowels towards the blood-vessels. There are stated to be few exceptions to this rule; and when they occur, it is either because the foreign substance penetrating the membrane renders it unsuitable for endosmose—in other words, makes it permeable, like a filter, to whichever of the fluids exerts the greater pressure; or because the substance puts a stop to the action altogether, the membrane becoming impervious to either fluid.

The endosmometer employed by Poiseuille may be presumed to have been similar to that of Dutrochet, which has some inconveniences worthy of notice. For the membrane he used the cæcum of the sheep, but whether fresh or in what state is not mentioned. Having closed the reservoir with a piece of the cæcum, and filled it with the fluid to be tried, he immersed it in serum. But though the mode of preparing the fluid in the reservoir is commonly stated, yet whence its density may be ascertained, the density of the serum, and the animal which furnished it, are not stated. That of the human (venous) blood, according to Becquerel and Rodier, varies from 1026 to 1030, while the numbers given by Dr. John Davy for the venous blood of some of the lower mammalia, are from 1023 to 1030. The last, or one or two degrees higher, was what I obtained for the mixed serum of the sheep killed for the table. This question of the density of the serum is a matter of some consequence; for though, where the difference between the fluids in this respect is known to be considerable, a doubt as to a few degrees on either side may not seriously affect the conclusion, the case is altered when, for instance, a theory of the influence of tobacco is founded on an experiment in which the specific gravity of a decoction may be somewhere between 1020 and 1030, and that of the serum opposed to it is also uncertain.

The endosmometer of Dutrochet consists of a glass tube with a

somewhat bell-shaped moveable expansion, called the reservoir, open at both ends. The tube is fitted into a neck at the smaller end by the aid of a cork. A piece of membrane having been tied over the larger orifice, the instrument is filled and placed in another vessel of fluid, the pressure of which causes that in the reservoir to mount to a certain height in the tube. This is noted by the aid of a scale attached to the tube, and affords the starting point for future observations. Apparently to allow the membrane to be secured, there is a deep contraction round the middle of the reservoir, which has the disadvantage of requiring a needless expenditure of material. The use of corks for fitting the tubes also rendered it difficult in my experiments to prevent loss from leakage. Accordingly, the form I have adopted is that of a bell jar, having a projecting rim round the larger opening, by which to fasten the membrane, and the cork in the neck is also dispensed with, by having the end of the tube and the inside of the neck ground to fit one another. To sustain the instrument in the required position, the tube is passed through a cork adapted to a hole in a leaden plate, which rests on the edge of the outer vessel. This is a glass cylinder of such dimensions that, when containing a quantity of fluid equal to that in the reservoir, a portion is raised by the introduction of the reservoir to a level with its neck, leaving sufficient below the membrane. The height of the column in the tube is then marked by a thread, and the subsequent changes being noted by the same means, are measured by a pair of compasses on a scale of inches and tenths. The reservoir has a capacity of eighteen drachms, and a diameter at the larger orifice of 1.8 inch. The calibre of the tube is a fourteenth of an inch. Smaller instruments were used for the skins of frogs, etc.

Dutrochet and Matteucci recommend to support the membrane by resting it on a perforated metallic plate. But if it be firmly stretched, to which no objection has been stated, it seems to afford sufficient resistance to pressure; and, besides, a question arises, as to whether the presence of the metal does not tend to disturb the results. It was observed by M. Porrett, that when two portions of distilled water are separated by a membrane, and connected each with a pole of a galvanic battery, the water traverses the partition towards the negative pole. This resembles the effect of difference of density, and suggested the theory of Dutrochet, that some electrical influence is the cause of endosmose and exosmose. Nevertheless he tried in vain to determine the point by the aid of the galvanometer. On filling a reservoir with a solution and suspending it in water, I have also found no effect produced on the needle on connecting the opposite sides of the membrane with a galvanometer; but the addition of a plate of tinned iron in the position indicated, gave rise to deflections varying in extent with the nature of the fluid employed.

But the question of most consequence is that relating to the condition of the membrane, a distinct account of which, as will presently appear, is by no means a matter of such indifference as might be supposed, from the loose manner in which it is commonly mentioned by authors. This is sufficiently shown by the researches of Matteucci, although it is doubtful whether his theoretical inferences are not somewhat premature. In trying the skins of the frog, eel, and torpedo, he found a remarkable difference of result, according to the position of

the respective surfaces with regard to the fluids, the endosmose being greater when the outside was in contact with the denser fluid. Or, supposing the rule to hold good in the live animal, the tendency of the skin to allow fluids to pass outwards exceeds its disposition to absorb them. In the author's words—"If we do not admit that this secretion of mucus, and this weak absorption of the water in which these animals live, (functions which for their normal performance ought always to be in a certain relation to each other), are entirely due to this phenomenon, it is undeniable that they must be promoted by it." (*Lectures*, translated by Pereira.)

With syrup of the high density employed by Matteucci, opposed to water, the same result is readily obtained, as regards the skin of the frog. There is one remarkable source of fallacy, however, to be disposed of before we proceed to reason physiologically on the subject. After the experiment has lasted several hours, the cuticle, where it is exterior on the reservoir, can be easily taken off, and then the endosmose increases rapidly, so as greatly to exceed what could otherwise be obtained in either position of the surfaces. Eel skins, under my observation, gave variable results; even when perfectly fresh, (as the author enjoins), an unequal flow of mucus took place from the naturally free surface, which was a constant source of perplexity. The skin of the torpedo I have had no opportunity of examining. Matteucci's researches were extended to the mucous membrane of the stomach and bladder of different animals, with the effect of showing that the intensity and direction of the endosmotic current vary with the nature of the membrane, and that "the cases are very rare in which, with fresh membrane, endosmose takes place equally, whatever be the relative position of the membrane to the two liquids." But the mucous lining need not be insulated to observe a difference of result according to the position of the surfaces, for on using portions of the fresh cæcum of the sheep, with the inside in contact with strong syrup, the effect I found was much greater than in the reverse position. When the density of the syrup, however, did not exceed 1060, (which was the usual standard in my experiments), it was too obscure in either case to admit of a satisfactory comparison.

Conceiving from the last circumstance that Poiseuille was not likely to have used the cæcum in the fresh state, I tried it after having been first dried and then thoroughly moistened. The effect was more decided, but still, on the whole, the phenomena did not agree with those described. On further reflection, I was led to try this portion of the intestine as sold by the French in a prepared state, when it consists of the peritoneal coat separated from the other tissues. In comparison with such other dried membranes as appear most likely to answer, it has hitherto appeared to deserve the preference from the greater delicacy, though not otherwise dissimilar character, of the indications afforded by it. Among those employed were the cuticle lining the gullet of the ox (the "weasand" of commerce), and the prepared intestine of the sheep, as used by the druggists, both seemingly well suited for the purpose. An idea of their comparative value may be formed from the following table, which shows the effect with different solutions opposed to distilled water for the space of five hours. At the same time an illustration is afforded of a law, to be more par-

ticularly noticed hereafter, that the amount of endosmose varies with the nature of the fluid, and does not depend entirely on the density.

DENSITY OF SOLUTIONS 1060.

PREPARED CÆCUM.					DRUGGISTS' MEMBRANE.				
Elevation in inches.	Syrup.	Salt.	Sulph. Mag.	Nitre.	Elevation in inches.	Syrup.	Salt.	Sulph. Mag.	Nitre.
1st hour	2·3	2·1	1·	·7	1st hour	1·1	·6	·4	·1
2nd —	2·2	1·2	1·	·3	2nd —	1·1	·4	·4	—
3rd —	2·1	·5	1·	—	3rd —	·8	·2	·4	—
4th —	1·5	·1	1·	—	4th —	·7	—	·2	—
5th —	1·	—	·9	—	5th —	·5	—	·2	—
DRIED CÆCUM.					"WEASAND."				
1st —	·7	·5	·1	descent ·4	1st —	·3	·2	·1	—
2nd —	·5	·3	·2	—	2nd —	·3	·2	·1	·1
3rd —	·4	·2	·2	—	3rd —	·2	·2	·1	—
4th —	·3	·2	·2	—	4th —	·2	·2	·1	—
5th —	·2	—	·2	—	5th —	·2	·1	·1	—

Returning now to consider the views of Poiseuille, I shall confine myself to such as are deduced from experiment, following the order observed in his memoir.

ACTION OF PURGATIVES. Seidlitz water contained in the reservoir being opposed to serum ascended in the tube, albumen was found in the reservoir, and sulphate of magnesia (a constituent of Seidlitz water) in the serum. Patients having been purged with Seidlitz water, the alvine discharges contained an unusual quantity of albumen, and the urine of sulphate of magnesia. Pullna water gave the same results. Strong solutions of various salts and extracts likewise produced endosmose of the serum. Hence the conclusion is, that the influence of purgatives, relatively to the alvine discharges, depends on their property of determining a flow of serum into the bowels; while it is admitted at the same time, that all substances which have this property are not purgatives, neither do all purgatives act by producing endosmose. Syrup, for example, is a powerful endosmotic agent, but it is decomposed by the gastric juice before reaching the intestines; and, again, some purgatives, such as gamboge, operate by exciting the peristaltic action of the intestines. As regards the value of the experiment, notwithstanding its importance as showing that endosmose may probably have some effect in the manner indicated, we may reasonably question whether serum be a fair representative of the living fluid in the blood-vessels, or its accumulation in the bowels the only physiological effect of the saline purgatives.

TOLERANCE OF MEDICINES. It is proper to premise what is said on this subject, with a statement of some phenomena to be commonly observed in experiments on endosmose. The process, having been established, stops at periods varying with the substances employed. If the outer fluid be then examined, it appears striated, from the incomplete diffusion of the foreign matter introduced into it. After shaking it, there is a renewed ascent of the column; and the same thing may happen repeatedly. Poiseuille's experiment to illustrate the tolerance of medicines, is as follows: A solution of phosphate of

soda contained in the reservoir being opposed to serum, the column rose in the tube. On ceasing, the effect was renewed by agitation; and again it recurred on the substitution of water for the serum. It was further reproduced by removing the water, and replacing the serum previously withdrawn. And, finally, a fresh substitution of water for the serum produced it for the fifth time. The first pause the author attributes to a change in the condition of the membrane, rendering it unsuitable for endosmose; though he observes in the next sentence, that the agitation caused the displacement of the strata of fluid in contact with the membrane, which permitted the action to go on. On repeating the experiment with a solution of the phosphate, of density 1060, and the serum of the sheep, I obtained similar alterations, except that the second employment of the serum was not followed by a repetition of the phenomenon. Whether the author's facts, as related, bear the application he makes of them, I shall not further undertake to decide. "We believe," he says, "that the same substance taken into the stomach, and passing through a greater or less portion of the intestines, will produce less striking effects, as it is more frequently employed; hence we are led to infer that the tolerance in diseases invoked by Rasori, Giacomini, and the other Italian physicians, depends simply on the circumstance that the membranes of the canal in continued contact with the same substance, become saturated, and unable to allow it to enter so freely into the circulation."

INFLUENCE OF OPIUM. It is observed that opium and its salts check diarrhœa, and prevent other medicines, when given for special objects, such as nitre for rheumatism, from operating as purgatives. A solution of a drachm of nitrate of potash, to an ounce of water, was opposed to serum. It produced an elevation of the column for three quarters of an hour. While the operation was proceeding "in all its intensity", the instrument was withdrawn, and its contents replaced with a similar solution containing muriate of morphia. After this the action continued, but less vigorously; the column ascended for an hour, rested an hour, and then began to descend. Thus it is said the morphia diminished the endosmose, then stopped it, and ended by producing exosmose; such being precisely its effect in promoting constipation of the bowels.

After a careful investigation, I am compelled to say that my results are opposed to this doctrine.

In the first place, if the experiment had been continued without the morphia, the probability is, that the action would have ceased about the same time; because, as shown by the above table, nitre itself appears to have but a comparatively feeble power of endosmose. Solutions of the same strength, when opposed to the serum of the sheep, produced only an elevation of half an inch, and stopped within an hour. As no other evidence is adduced in support of the theory, it might fairly be regarded as unsatisfactory. But to determine whether opium, under any circumstances, exerts this peculiar influence on the membrane, I have repeatedly tried it in aqueous solution opposed to water, and obtained elevations far more considerable and lasting than those afforded by many inorganic salts. The serum of the sheep, enclosed in the reservoir, being opposed to a solution of a grain of muriate of morphia to an ounce of distilled water, occasioned a vigor-

ous endosmotic action for above twenty-four hours. Added to syrup or a solution of sulphate of magnesia, of density 1060, in the same proportion, or dissolved in the distilled water opposed to them, it made no appreciable difference. Hence there is reason to doubt whether morphia is "a substance the presence of which puts a stop to endosmose, and renders the membrane impermeable to either fluid."

INFLUENCE OF TOBACCO. The decoction of tobacco is stated by Poiseuille to have the effect of penetrating the membrane and rendering it permeable, so as to be unsuitable for endosmose. He made a decoction of four parts of tobacco-leaves to forty of distilled water, and opposed it to serum. In his own words, "there was a depression of the liquid column in the tube of the endosmometer; *the same effect is produced* on inverting the order of the two liquids, that is, putting the serum into the reservoir, and the decoction outside."

However, no allusion is made to the specific gravities. Having made a decoction in the same proportions, I found the density, after boiling above an hour, was 1023; and this, as expected, did not produce endosmose with the serum of the sheep. But a portion of the same decoction being opposed to distilled water, caused the column to ascend for more than five hours, at the rate first of three, and then of two-tenths of an inch per hour. After having been used for this purpose, the membrane appeared to be quite efficient when exposed to the action of syrup. No deteriorating effect seemed to follow from mixing a drop of nicotine with distilled water external to a reservoir filled with syrup. But what, I think, settles the question most completely, is that a decoction of tobacco, boiled down to a density of 1052, being opposed to the serum of the sheep at 1031, the endosmose was very active, averaging .7 inch consecutively during the first five hours, and was found not to have ceased in twenty-one hours from the commencement. A watery solution of the extract of hyoscyamus (which belongs to the same natural family as tobacco), also produced endosmose, with no perceptible deterioration of the membrane.

Having observed, as above noticed, a decided want of uniformity in the amount of endosmose afforded by different solutions, of equal density, under the same conditions, I was induced to extend the investigation to classes of substances. A large number were therefore submitted to experiment, the reservoir being closed with the prepared cæcum, previously soaked about three hours in cold water, filled with the solution at 1060 (or saturated, when the substance was not soluble, to that extent), and plunged in distilled water, equal in quantity to the fluid in the reservoir. The elevations were noted at intervals of an hour. Two instruments were employed for each substance simultaneously; and the operation was then repeated with fresh materials, to furnish a mean result, which was set down in a table. The limit of five hours was chosen for the experiment; first, because the action generally ceased within that period, so that it formed a tolerable standard of the extreme duration of the endosmose; and next, in order to learn whether the observed deficiencies in this respect were attributable or not to an obstruction of the pores of the membrane. This appeared not to be the case, from the circumstance of the water being usually most densely impregnated where the action had been

the smallest, as measured by the elevation in the tube. It is necessary to mention that the apparatus was never shaken, as this would tend to confuse the results.

The table itself I shall refrain at present from laying before the public, because, notwithstanding the care taken in its construction, it may still be calculated to mislead, from the difficulty of ascertaining the precise relation between any two substances. Dutrochet, in comparing gelatine and albumen relatively to the amount of endosmose which takes place between them and water, was not satisfied with less than ten experiments. The acquisition of a suitable porous medium is, in fact, a great desideratum, it being impossible as yet to depend on the uniformity of structure, even of adjoining portions of the most carefully selected membrane. I shall therefore content myself with mentioning the substances examined, and stating the general conclusions, without prematurely attempting to define the exact relation in which they stand to one another.

Sulphates. Potash, soda, ammonia, magnesia, alumina and potash, iron, copper, zinc.

Nitrates. Potash, soda, ammonia, lime, baryta, strontia, lead, copper.

Chlorate. Potash.

Phosphate. Soda.

Biborate. Soda.

Carbonates. Potash, soda. *Sesquicarbonate.* Ammonia. *Bicarbonates.* Potash, soda.

Tartrates. Potash, Potash and soda.

Acetates. Potash, soda, ammonia, lead.

Chlorides. Potassium, sodium, ammonium, calcium, magnesium, barium.

Iodide, Bromide, Ferrocyanide. Potassium.

Organic Substances. Gum, liquorice, sugar, treacle, opium, tobacco, hyoscyamus, spirit of turpentine.

Among the salts enumerated, the sulphates, the phosphate and biborate of soda, the carbonates, tartrates, and acetates, all displayed a great degree of energy, though the action was of a different character. In the sulphates, it was less vigorous in the early stages; but it maintained itself more equably, and was generally unfinished at the close of the experiment. The others, except the borax, gave much higher results at first, but the rate of elevation per hour diminished rapidly. On the other hand, the nitrates, the chlorate of potash, the chlorides and their allied salts, were remarkable for their generally feeble action, especially the chlorate of potash, and the iodide and bromide of potassium. Among these, the chloride of sodium was distinguished for its comparative degree of energy, and the length of time it was sustained. Now, what deserves attention here, relatively to the medicinal employment of these substances, is, that those which are preferred as purgatives belong to the more energetic class of endosmotic agents; and again, that experience has fixed upon two of the *sulphates* as the best adapted for ordinary use. Between the endosmose of the sulphate of magnesia, and that of the nitrate of potash, equally familiar as a diuretic, there was always a striking contrast, to the advantage of the former. Some of the same endosmotic class as the last salt, but of a still feebler character, as above specified, have at the same time an

obscure and undefined action when given medicinally, characterised as resolvent, discutient, etc. The elevation of gum and liquorice is slow, but of extraordinary durability, lasting for days, and even weeks, without interruption. These are the common demulcents.

But there are other salts in the list, which exhibit similar properties in the endosmometer to those of the medicinal agents just noticed, and nevertheless are prescribed for very different purposes. This might be supposed to prove that the force in question has, in reality, very little influence. I am not attempting to establish a theory by which all the varieties in the action of medicines may be accounted for by modifications of endosmose; and, indeed, as already stated, I imagine it to be but one among a combination of agencies which regulate their effects. In consequence, the word "coincidences" appears to me preferable to express the relations just pointed out. At the same time, I cannot help thinking that these are too remarkable not to be considered as of some importance, and worthy of leading to further investigation. It is beyond doubt that processes of endosmose and exosmose are constantly going on in the system, and reason would suggest that they must be qualified by the inherent tendencies, in this respect, of the various bodies in solution. The above apparently exceptional cases, it will be observed, are those in which there is usually some peculiar irritant or poisonous property, which takes the pre-eminence as regards the sensible effects, but does not necessarily exclude the operation of this agency. It may be added, that another striking coincidence is presented by alcohol and ether, which, as ascertained by Dutrochet, though lighter than water, act towards it like fluids of greater density, and attract it through the membrane. I have found that spirit of turpentine has the same effect, though only to a slight extent, probably from its being but sparingly soluble in water. This appears curiously significant, when associated with the peculiar intoxicating properties of these fluids.

It may be remarked, that Dutrochet was aware of a diversity in the endosmose of different substances, irrespectively of the relation of density; and suggests in his collected memoirs, published in 1837, that "it would be important to determine by experiment the relative power possessed by different solutions, when separated from water by the same animal membrane." He tried the experiment himself, in the case of gelatine, albumen, gum and sugar, and two of the inorganic salts. The proportion of the endosmose of gum to that of sugar was as eight to seventeen, which agrees very nearly with my results. The salts were sulphate of soda and chloride of sodium, which gave the proportion of two to one; while the numbers I have marked in the table are, for sulphate of soda 6.6 inches, and for chloride of sodium 3.9 inches elevation in five hours. This is a sufficiently close correspondence to show that Dutrochet's researches, had they been carried further, would probably have led to the same results as those which are here given.

From what precedes, I think the following conclusions may be drawn:

1. That the division of substances into those which are favourable to endosmose, and those which, on the one hand, retard and annihilate it by their influence on the membrane, and on the other, render the

membrane permeable, or reduce it to the condition of a filter, is without sufficient foundation.

2. That the power of endosmose of different substances is not regulated entirely by their density, as already observed by Dutrochet.

3. That the purgative salts generally have an energetic power of endosmose, and that this is exerted with more steadiness and uniformity by those which medical experience has selected as the most useful in ordinary cases.

4. That some of the other substances examined have marked peculiarities with regard to endosmose, which will probably assist towards explaining their mode of action on the system.

London, December 1851.

THE LIVER THE REGENERATOR OR HYDROGENATOR IN ANIMALS; OR THE ANTAGONISM BETWEEN THE LUNGS AND THE LIVER.

By GEORGE WYLD, M.D.

THE object of this paper is to disprove the doctrine, so universally prevalent, of the liver being mainly an organ for the excretion of the waste of the tissues, and thus *vicarious* with the lungs; and to propound the idea of the writer, that the liver is essentially a *secreting* organ in *antagonism* with the lungs. Or, that, as the lungs are mainly for the *oxydation* of the system and destruction of the tissues, so the liver is mainly for the *hydrogenation* of the system and regeneration of the tissues.

The following (abbreviated) quotations will fully exhibit the prevalent doctrine concerning the function of the liver to be as above stated.

Müller says the liver *freces the blood* from an excess of matters containing carbon and hydrogen, as the kidneys remove the superabundance of those materials, which contain a large proportion of nitrogen. (pp. 164, 165.)

Tiedemann and Gmelin say that the excess of bile secreted in the tropics is required to compensate for the diminished purification of the blood in the lungs, on account of the rarification of the air. (Müller, p. 166.)

Carpenter, in his *Physiology*, 1842, says: "The rudimentary structure of the liver in insects is compensated for by the extremely active respiration of these beings, while in molluscs the liver attains a greater developement; and we are at once struck with the fact that the liver bears an inverse proportion to the opportunity afforded by the respiratory organs for the aëration of the blood. In fishes and reptiles the liver is of considerable size, and seems to perform a very important part in the decarbonisation of the blood. In birds, on the other hand, where respiration is so much more active, the liver is smaller." (pp. 439, 440.)

"Before birth, the lungs not acting, the liver is the only *decarbonising organ*." (p. 449.)

"It is uncertain whether the bile does not act entirely as a precipitant, and is *altogether cast out* of the system. There can be *no question*, however, that by *far the largest* part of the secretion is destined to be *entirely thrown off*, and thus *free the system of superfluous hydro-carbon*."

Again, Carpenter, in his *Manual*, 1844, says "that a large part of the bile is purely *excrementitious*, and is poured into the intestinal tube for the purpose of being carried out of the body, can scarcely be questioned. We may regard it as one office of the liver to remove from the blood such products of the disintegration of the tissues as are rich in carbon and hydrogen."

"That the less hydro-carbon is separated from the blood by respiration, the more is eliminated from it by the biliary secretion, seems to be a great principle throughout the animal kingdom." (pp. 420, 421.)

Liebig, 1842, says: "The elements of the bile, viz., carbon and hydrogen, serve for respiration, and for the production of animal heat."

Prout speaks of the liver as a *depurator* of the blood.

Gregory, 1845, says: "The bilious product of the destruction of the tissues is oxydised into carbonic acid and water, thus contributing to keep up animal heat." (p. 562.)

Erasmus Wilson speaks of "the two great *depurating* organs, the lungs and the liver"; and "the necessity of removing carbon and hydrogen from the blood."

Budd, 1845, observes: "It is clear enough that a large proportion of the proper principles of the bile are derived from the waste of the body. The liver, lungs, and kidney, are the three principal outlets for the *waste of the tissues*." (p. 28.)

Kirkes and Paget, 1848: "In the foetus there is no respiration, but the liver is proportionally larger than after birth. In the foetus, therefore, the main purpose of the secretion of bile must be the purification of the blood by direct excretion; the intestines at birth being full of thick bile (probably all that is secreted in foetal life) and miconium. Thus the liver may be said to discharge a function vicarious with the lungs. This makes it highly probable that the bile in extra-uterine life is also, at least for the *most part*, destined to be *discharged as excrement*, viz., in the form of water and carbonic acid gas." (p. 442-6.)

Liebig's *Letters*, 1851. "The liver roughly sketched is the magazine for the matters destined for respiration; it is the workshop in which they receive the shape and quality fitted for the production of animal heat." (p. 327.)

Carpenter, 1851, inculcates the same doctrines concerning the function of the liver as he teaches in the extracts we have already given from his earlier works.

It is thus rendered sufficiently evident, that the grand function of the liver is understood to be "to free the system from an excess of hydro-carbonaceous matters, the result of the waste of the tissues." Beyond the above quotations, physiologists certainly maintain that the bile serves certain purposes in digestion, such as converting chyme into chyle; and further, that bile is an antiseptic and an exciter of the

peristaltic action in the intestines, and a saponifier of fats, while Meckel says that it converts sugar into fat. These offices of the bile, however, are generally spoken of as subjects of doubt and difficulty. For instance, Müller, in alluding to certain experiments of Tiedemann and Gmelin, says, that "they afford no satisfactory information relative to the office of the bile in chymification." (p. 602-3.) Carpenter says in his *Manual*, that "the destination of bile is still a matter of doubt." (p. 277.) Dr. Budd observes, "when we come to details concerning the purposes of the bile, our knowledge is found to be much wanting in precision" (p. 28); while Kirkes and Paget say, "respecting the nature of the influence of the bile in digestion, little is known." (p. 446.) These confessions appear to me sufficiently to justify the proposal of a new theory concerning the functions of the liver: but let us first inquire into the arguments in favour of the current theory of the day. The arguments produced in favour of the excretory and vicarious functions of the lungs and liver are mainly three.

First. "If bile be not excreted, there is jaundice, which may be fatal; therefore the bile is mainly excrementitious."

Now although we know that the suppression of any excretion has a poisonous effect upon the system, yet there is no proof that the fatality spoken of in certain kinds of jaundice arises from the presence of those matters in the blood which should have been excreted as bile, because in these cases there is generally urea also found in the blood, a sufficient cause for the effect produced, viz., death. But, granting that this poisoning does arise from the presence of matters which should have been excreted *as* or *in* bile, this by no means proves that *all* the matters going to form bile are poisonous, but merely a certain number of such. But, lastly, granting that all such retained and *non-secreted* matters are the source of this poisoning, this does not prove that *secreted* bile is an excrement; for, as Dr. Alison has shown, if bile be once secreted and again reabsorbed, the aforesaid fatal jaundice does not occur. Therefore the poisoning is not in the bile *per se*, and therefore, we might add, bile is not an excrement.

Second. It is said, "In hot climates, where from rarity of the air oxygen is deficient, there is a deficient oxygenation and excretion of hydro-carbonaceous matters from the lungs, and a consequent biliousness; hence an additional call is made upon the liver to excrete such superfluous hydrocarbonaceous products; hence diarrhœa and bilious vomiting. Therefore the lungs and the liver are vicarious in function, and that function is the excretion of hydrocarbonaceous matters."

In answer to this, we observe that this doubtless occurs where from indolence, induced by heat and excessive indulgence, there is a deficient muscular exertion maintained, and a consequent deficient respiration and oxygenation of the tissues and excretion of such by the lungs, and a consequent biliousness; yet, with sufficient exercise and temperance, there is in hot climates, as in cold, an immunity from this biliousness. Again, as to excessive discharge of bile with diarrhœa in hot climates, there is nothing to prove that this arises from a deficiency of oxygen in the air, and not rather from the presence in *excess* of that natural stimulus of the liver, viz., *heat*; for in temperate climates the indolent are constantly liable to what is called biliousness, but not often, as in hot climates, to diseases of the liver, except, as with cooks, there be

exposure to great heat, together with that intestinal and consequently hepatic irritation produced by the over-excitement of rich food and spirituous liquors.

Third. It is said, "This vicarious function is further illustrated by the law of inverse ratio which subsists between the development of the lungs and the liver in the animal series; and further, by the immense development of the foetal liver, the lungs being in this case undeveloped and unemployed." Hence, as Messrs. Kirkes and Paget say, "In the foetus, probably all the bile formed is excreted into the intestinal canal, to be there found at birth with the meconium; therefore it is probable that in extra uterine life also the bile is mainly excrementitious."

To this I would in the first place answer, in the words of Dr. Budd, "It is a formidable objection to the vicarious theory between the lungs and the liver, in separating hydro-carbon, that in the serpent, whose respiration is extremely feeble, the excrement does not contain a particle of bile." (p. 32.) And in answer to the arguments of Messrs. Kirkes and Paget, I would observe, that we know that the adult human liver secretes from twelve to twenty fluid ounces of bile daily, say fifteen ounces; that is, the liver being from forty to fifty ounces in weight, secretes daily one-third of its own weight of bile. The foetal liver at birth is about eight ounces in weight; and if we calculate its average weight from the fifth month inclusive, up to the full period, we obtain an average of fully three ounces as the weight of the foetal liver, extending over a period of six lunar months. Now this liver, at the admitted action of the adult gland, should furnish one fluid ounce of bile per day; and, therefore, at the birth of the infant, we should find 168 fluid ounces of bile in the intestinal canal. But what do we find? Why, only about two ounces of meconium, viz., mucus and bile mixed; that is, about one fluid ounce of bile, instead of the 168 ounces promised to us! If it be objected that we should only look for solid bile, (the fluid part being reabsorbed,) still we should find seventeen ounces; instead of which, we shall find probably not more than a quarter of an ounce of solid bile, or about the sixty-eighth part of what we should demand, if the theory propounded were true.

We have thus endeavoured to show, *first*, that the fatal jaundice, accompanying the non-secretion of bile, does not prove bile to be an excrement; *second*, that there is no proof that the deficiency of oxygen in the air is the cause in hot climates of a superfluity of bile in the duodenum; *third*, that the doctrine of a vicariousness, as subsisting between the lungs and the liver, rests only on an hypothesis which is, with regard to the foetus, easily shown to be most untenable.

If we now proceed from the negative to the more positive side of the argument, we shall find the strongest reasons against the doctrine of the liver being *mainly* an excretory organ.

1. The immense size of the gland, its most beautiful and complicated structure, together with the fact of its nucleated hepatic cells, is *a priori* a strong argument against the doctrine of its main function being for excretion.

2. The immense relative size of the liver in the foetus, contrasted with the extremely small amount of excretion, is a further argument in the same direction.

3. The fact of only about one-fortieth part (*see* Budd and Liebig) of the secreted bile of the adult being found in the fæces (the true intestinal excrements), is a still further and stronger argument in favour of the bile not being mainly an excrement.¹

4. The amount of supposed excrement daily produced, viz., about one and one-fifth of an ounce of solid hydro-carbonaceous matter, is a most inadequate result to be purchased at the expense of so large and complicated a gland, seeing that the lungs and the skin daily excrete about fourteen ounces of solid carbonaceous matter.

5. There appears little necessity for the elimination of this hydro-carbonaceous matter, seeing that if, as it is said, it be reabsorbed for the purpose of burning, it could furnish only about one-twelfth part of the daily-required animal heat. (*See* Dr. Budd, p. 32.)

6. Although, most bountiful, nature ever scatters her gifts with the utmost luxuriousness of hand, yet, in so doing, she ever employs the utmost economy of means, producing from the smallest possible expenditure of power, the largest possible results. If, then, all that is required be the excretion of the effete hydrocarbonaceous matter from the blood, then there exists no necessity for the liver at all, because the lungs are the admitted natural emunctory of such products; and to say that these products are, first, excreted by the liver; second, reabsorbed by the lacteals; third, again excreted by the lungs, is to attribute to nature a process of involution and supererogation such as she is never guilty of.

7. As Dr. Alison has shewn, if bile be secreted and then reabsorbed, the effects on the system are not poisonous, as they probably are if the elements of the bile are not first separated from the blood by the liver. This proves, *first*, that the lungs cannot separate these elements from the blood; for, if so, why jaundice, and why poisoning? *second*, that therefore these elements are not merely waste hydrocarbonaceous matters; *third*, that the bile, being neither *per se* poisonous, nor capable of elimination by the lungs, is therefore a new and chemical product, created by the liver.

8. The fact of bile not being discoverable in the blood, even after extirpation of the liver, as tested by Hernde, is a further corroboration of the idea that the bile is not *excreted*, but *created* by the liver.

9. From the fact that in the lower animals, as in the echinodermata, myriapoda, and conchifera, the bile is poured into the stomach; while in the higher animals, as from the fish up to man, it is *not* poured into the colon or rectum, but into the duodenum; and from the fact that there is no gall-bladder in those animals most constantly ingesting food; and from the fact that the presence of chyme in the duodenum is a necessary stimulus to the flow of bile into that cavity; and from the converse fact that, when this stimulus does not exist, the bile is hoarded up in the gall-bladder, to be poured out only when chyme reaches the duodenum;—from these facts, we say, it seems impossible to resist the conclusion that the bile is *not* an excrement, but that the *grand* function of the liver is to assist in the maturation of the chyme.

10. And further, from the fact of no true chyle being formed, if the

¹ Dr. Sharpey says, that a larger amount is excreted by the intestines than Liebig has calculated.

bile be by a ligature, as in Sir Benjamin Brodie's experiment, or by a fistulous opening, as in Schwann's experiment, prevented from reaching the chyme—death resulting as a consequence of slow starvation—we attain to something like a demonstration that the bile is not an excrement, but that its presence is absolutely essential to the digestive and assimilative processes, and to the life of the animal.

11. The skin and the lungs are, in hot and in cold climates, most cordially vicarious in function, and relieve each other with the utmost good will, and without any derangement to the system, as a result of the one being plus and the other minus in its action. But no sooner is the liver called upon for a little vicarious work, as is supposed, than it and the system generally manifest great disturbance and dissatisfaction; and truly with a bad grace does it perform the duties of its vicarage. But, indeed, this is a sufficient proof that its normal function is not one vicarious with the lungs.

12. But, lastly, this doctrine of a supposed vicariousness existing between the lungs and the liver, as a chief function, seems to be in part founded upon a curious oversight; for what is the chief function of the lungs? Evidently not merely to excrete hydrocarbonaceous matters, but to absorb oxygen as a vital stimulus. If, then, a vicariousness subsist, the chief function of the liver should also be to absorb oxygen—which no one says that it does. Therefore, the doctrine of a true vicariousness is not founded on, but is contrary to, fact.

What, then, is the grand function of the liver? It appears to me, that the question, beyond the power of the bile as a purgative, antiseptic, etc., has been already answered, by shewing that the presence of bile is essential to the conversion of chyme into chyle. And it certainly does strike me as being somewhat curious that physiologists, instead of enforcing this view, should have chosen rather to establish the doctrine of an *excretory vicariousness*.

According to Dr. Beaumont, if bile and pancreatic juice be mixed with chyme out of the body, it separates into a sediment at the bottom, a whey-like fluid in the centre, and a creamy pellicle at the top.

Tiedemann and Gmelin, as quoted by Müller, say that the milkiness of the chyle is owing to minute particles of fat being held in minute divisions, which divisions they believe to have been accomplished by the bile. And Müller says, that he himself observed numerous *globules of oil* in a drop taken from the thoracic duct and placed under the microscope; and he adds, "these oil-globules evidently caused the milkiness of the chyle". According to Sharpey, chyle consists of 1. Chyle corpuscles; 2. Molecules, $\frac{1}{3,600}$ to $\frac{1}{2,400}$ in., called by Mr. Gulliver the molecular base of the chyle, being opaque bodies instantly soluble in ether, and therefore presumed to be fatty matter, chyle becoming nearly transparent on their solution; 3. Oil globules; 4. Minute spherules, probably albuminous.

According to Dr. Rees, the chyle of an ass consists of—

Water	90·237
Albuminous matter	3·516
Fibrinous matter	·370
Extractives, soluble in water and alcohol	·322
Ditto, soluble only in water	1·233
Fatty matter	3·601
Alkaline, chloride, etc.	·711—100·000

The grand function, then, of the liver appears to be, to convert chyme into chyle; that is, to create the fatty molecules and oil-globules of the chyle, without which it would appear that the nutrition of the animal is impossible.

As to the method by which the bile performs this most important office, we do not pretend to divine. It may be that bile, being a saponific of fatty matter, merely separates, breaks down, and in some way alters the fatty matter contained in the food, so that it assumes the form of molecules and oil-globules; or it may be that the bile, by precipitating certain equivalents of oxygen, thus converts starchy matters into fat and oil; or it may be that the bile, being a rich hydrocarbon, thus, as it were, raises the low hydrocarbons of the chyme to fatty and oily matter, as thus:

We have no formula for chyme; but, accepting of that for blood as probably not far from the truth, then we have—

Chyme (blood)	C 48	H 36	O 14	N 6
Add the formula of bile	76	66	22	2

And divide by common divisor 5.1)	124	102	36	8
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We obtain (nearly)	C 24	H 20	O 7	N 1.5
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viz., a very close approximation to fat, viz., C 24 H 20 O 2

Of course it is not pretended that the manner of this calculation is strictly scientific, or the result extremely satisfactory; still, it appears to us sufficiently so to merit some attention. Nor is it difficult to suppose, nor do we perhaps ask too much in supposing, that the extra oxygen and nitrogen may be of those parts of the bile which are cast out of the body with the fæces. But, whatever be the process by which bile creates fat and oil from the chyme, of this we are at least certain, that fatty molecules and oil-globules do result on the bile being added to the chyme.

Now, if we accept of the suggestions of Ascherson and of Dr. Bennett, as illustrated by Dr. C. J. B. Williams, with reference to cod-liver oil, in the first number of the LONDON JOURNAL OF MEDICINE, it appears scarcely possible to over-estimate the value of the aforesaid fatty molecules and oil-globules of the chyle. Dr. Williams, after quoting several illustrations of the almost miraculous benefits derived from the exhibition of cod-liver oil, and mentioning one instance in which a patient, by the consumption of eight pounds of the oil, gained forty pounds in weight, adds: "The effect of the oil seems to be, to increase the healthy function of the liver, and thus to add to the general health and vigour of the system." He says also: "There is much reason to believe that cod-liver oil proves serviceable in supplying the fat molecules which appear to be essential to healthy nutrition, as forming the nuclei of the primary cells or rudiments of tissues."

Now, although we cannot say that we altogether subscribe to the opinion of Ascherson and Dr. Williams, yet, with reference to the fact that no other oils yet tested, whether pure or medicated, act so beneficially in phthisis as oils got from the livers of fishes, it certainly does appear to us extremely probable that the liver not only has the power of creating oil by its secreting the bile, but that it has also the power of creating a certain *specific oil*, which would seem to be essen-

tial to the operations of the nutritive and formative powers. This, then, we consider to be the grand function of the liver.

Again, this formative and regenerative power possessed by the liver is further illustrated by the most significant fact, that in those animals in which the liver is strikingly large, the power of formation and of reproduction or regeneration is most wonderfully developed. For instance, the crustacea, which have immense livers, have also the power of regenerating amputated limbs. In the salamander, the liver is relatively immense; and, as pointed out by Spallanzani and others, the salamander has the power of regenerating its amputated tail; also of regenerating amputated limbs; also regenerating its under jaw; and has even the power of regenerating the spinal cord along with the tail. In the triton, also, Blumenbach has observed the regeneration of an extirpated eye. The molluscs, also, have immense livers; and the snail, in which the liver is about one-third of the entire animal, has the power of regenerating her amputated face. Again, the younger the animal, the larger relatively is the liver, and the greater is its formative and growing power. And it is in the very early human fœtus, when the liver is at its largest, namely, about one-third of the entire weight of the being, that the formative power has attained its climacteric.

So strong, indeed, is this regenerative power, that if an early fœtus by some intra-uterine stricture should get its arm amputated, nature will make an attempt to reproduce the lost limb, and the rudiments of fingers and nails will appear on the stump.¹ In short, it appears to me, that just in direct proportion to the relative size of the liver in the animal series, will be found the force of the formative and regenerative powers. It may be objected, that the regenerative power is generally in the ratio of the simplicity of structure in the animal. Granting that it may be so, this does not prove that the liver is not the source of that power; while in the human fœtus the objection will not apply, for here we have a being of as complicated a structure as the fully-grown adult man, and yet this enormous plastic power exists, viz., a power in direct relation to the immense size of the liver.

If, then, it be granted, that the main office of the liver is to regenerate the tissues, so also must it be granted that this function of the liver must be, *not vicarious with, but in antagonism to that grand function of the lungs*, which consists in the oxydation, or combustion and elimination from the system, of those effete products consequent upon the life and growth and action of the animal.

Of course we do not overlook the fact, that one grand office of oxygen is to stimulate the vital force. Perhaps it may be also allowed that the pathology of the lungs and that of the liver still further illustrate some kind of antagonism. For instance, it is in *cold* climates where dense air, viz., oxygen, is plus, that phthisis prevails; and it is in the tropics, where heat is plus, that hepatitis prevails. Again, hepatitis is accompanied by a dry and itching skin, a dull eye, and a sour temper, while phthisis is accompanied by the reverse, viz., a moist and perspiring skin, an abnormally clear eye, and a temper greatly tending towards joy and hopefulness. It is further a curious circumstance, that disease of the liver is much more prevalent among men than

¹ DR. SIMPSON in Edinburgh Month. Journal of Med. Science, vol. for 1848.

among women, as is illustrated by the condition of our British troops in India and their attendant wives, and this independent of an equal amount of dram drinking on both sides. And it is again a strange fact, that immensely fatty and enlarged liver is a frequent accompaniment of phthisis; but it is much more common in the female than in the male.

In chemistry, we believe that a certain antagonism exists between oxygen and hydrogen; and, believing as we do, that a strong antagonism subsists between the functions of the lungs and the liver, and it being granted that the lungs are the oxygenators in animals, so we have ventured to name the liver "the *hydrogenator* in animals". Between oxygen and hydrogen there exists the antagonism, that oxygen is magnetic, as shown by Faraday, and hydrogen is believed to be diamagnetic. In the decomposition of water by the battery, oxygen appears at the positive pole, and hydrogen at the negative pole.

Again, oxygen eats into and corrodes all substances, even the metals, and hardens in so doing. In short, oxygen, although necessary to life, is yet the cause of death; while hydrogen, in that union in which we know it best, viz., in water, is the most universal solvent of matter, and in man water constitutes seven-eighths of the entire animal.

If, then, this antagonism subsists between oxygen and hydrogen on the one hand, and between the lungs and the liver on the other, we might, *à priori*, conclude, that as oxygen, viz., air, was the true stimulus of the lungs, so hydrogen, that is, water, should be the true stimulus of the liver; and accordingly we find that it is so, for water is an excellent cholagogue. And so also as nitrous oxide, viz., excess of oxygen is an inflammatory stimulant to the lungs, so alcohol, that is, excess of hydrogen, is a deadly enemy to the liver, either by the production of hepatitis, or excessive fattiness, viz., abnormal nutrition.

As by the lungs, then, the animal is oxygenated, so by the liver the animal is hydrogenated. The oxygen is carried into the system by the red corpuscles, and the hydrogen is circulated in the fluid fat of the blood. The source of this oxygen is in the air we breathe; and the source of this hydrogen is in the water and fluids we drink. The water being carried by the mesenteric veins to the liver, is there decomposed by the nucleated hepatic cells.¹ Hydrogen, being thus liberated, unites with the carbonaceous matters also present, and is thus passed out in the form of bile, viz., a substance, the characteristic of which is, its being a rich hydro-carbon, analogous to fat.

I seem to be further justified in this theory of the *creation* of bile,

¹ This has been my opinion since April 1847, when the general idea of this paper was first suggested to me by my friend Mr. Dove. This idea I submitted in writing to the consideration of my friends on the 31st March, 1851. About two months afterwards, the new edition of Liebig's *Letters on Chemistry* appeared, in which, at page 378, I find the following note. "When a fresh calf's liver is cut in pieces and covered with water, and exposed to a temperature of 98° 6' to 104° F., a remarkable fermentation begins after a few hours. The liver becomes covered with a number of gas bubbles, chiefly of *hydrogen*. Each bubble as it rises may be kindled at the surface. In an open vessel, during the first hours of fermentation, no putrid smell is observed. It is hence obvious, that the liver contains a substance which, in a certain state of decomposition, becomes a ferment powerful enough to decompose water, the oxygen of which is taken up by the elements of the ferment."

by the fact of no bile being detectable in the blood, even after the liver has been extirpated, as tested by Hernde. We have already seen that bile is essential to the formation of chyle, that is, essential to the life of the animal; and that the characteristic of chyle as distinguished from chyme, is the presence of oil globules and molecules of fat. Do we, then, push our argument too far in saying, that hydrogen is the peculiarly essential element in oil necessary to the nutritive and regenerative powers, seeing that the grand characteristic of oil is, that it is of all animal substances the *richest in hydrogen*.

We have thus endeavoured to show;—

1. That the main office of the liver is not to excrete hydrocarbonaceous matters, the result of the waste of the tissues; and therefore that its function is not vicarious with that of the lungs.

2. That the grand function of the liver is to *create* bile, without which bile the *nutrition* of the animal is impossible.

3. That the grand office of the bile is to create the oil globules and fat molecules, as they are found in the chyle.

4. That this oil is of a character different from ordinary oils, inasmuch as it is not only the most nutritious of all oils hitherto tested (cod-liver oil), but is, in short, an oil essential to the formative and regenerative processes (oil of chyle).

5. That in proportion to the relative size of the liver in the animal series, will be found the force of the formative and regenerative powers.

6. That although oxygen is essential to the vital force, yet one of its grand offices is to destroy tissues; and thus an *antagonism* may be said to subsist between the functions of the lungs and the liver.

7. That the liver has the power of decomposing water, and using the hydrogen thus set free for the creation of bile.

8. That, therefore, as the lungs may be called the oxygenators in animals, so *the liver may be called the hydrogenator in animals*.

ON THE RELATIONS OF UTERINE TO CONSTITUTIONAL DISORDER.

By F. W. MACKENZIE, M.D., Physician to the Paddington Free Dispensary for the Diseases of Women and Children, Fellow of University College, etc.

(Continued from p. 135.)

SECOND GROUP. CASES OF UTERINE DERANGEMENT MORE ESPECIALLY MANIFESTED BY MENSTRUAL DISORDERS.

IN this series, I have more particularly included cases of amenorrhœa, irregular menstruation, and menorrhagia; but, in doing so, I have felt some difficulty in determining the exact nosological position of various cases which I have met with. Thus the term amenorrhœa comprehends at least three varieties. Firstly, those known under the appellation of *emansio mensium*, where the discharge has not appeared at the ordinary period of puberty; secondly, those of *retentio mensium*, where the

discharge has been delayed or protracted beyond its usual periods, after menstruation has been established; and thirdly, those of suppressio mensium, where it has been interrupted when taking place at its ordinary period. These different divisions, I need not say, comprehend many cases of a very dissimilar character; and in deferring, therefore, to popular usage, and giving cases under this appellation, it will doubtless be found that some have been included whose pathological characters differ very widely. So, also, in regard to menorrhagia, a certain latitude has been taken, and such instances of uterine hæmorrhage have been introduced under the term, which were independent of organic uterine disease, on the one hand, or of pregnancy or its immediate consequences, on the other. I have done this, because it is not always easy to determine what sanguineous discharges from the uterus are to be considered as strictly menstrual, and what are independent of this function: and, moreover, because it appears to me, that the same causes which give rise to excessive menstruation, are also those which, in many cases, give rise to uterine hæmorrhage independently of it. Dr. Locock's experience is also accordant with this view; for, in an article on hæmorrhage, in a *Cyclopædia of Practical Medicine*, he observes, that those who have suffered much from menorrhagia, are also those who are peculiarly liable to suffer from uterine hæmorrhage, after abortion or parturition. Believing, then, that the causes of menorrhagia are, at the same time, often those of metrorrhagia, I have introduced them indiscriminately in the present series; excluding, on the one hand, all cases of uterine hæmorrhage which had occurred in connexion with pregnancy or child-birth, and, on the other, such as were connected with the presence of organic uterine disease, such as fibrous tumours, polypi, cancer, encephaloid, etc.

I. CASES OF AMENORRHŒA.

CASE. Louisa P—k, aged 21, applied at the Paddington Free Dispensary, suffering much uneasiness in the hypogastrium, which was always increased by standing or walking, and relieved by lying down. At times it would cease entirely, and again return in violent paroxysms. Occasionally she had a sensation of bearing down of the womb. She suffered slightly from leucorrhœa, and had not menstruated for three months. Before menstruation was interrupted, or she had any uterine symptoms, she was very much out of health. Her tongue had been very bad, especially on awaking in the morning. She awoke tired and unrefreshed; and had felt, for some time past, weak, low, and nervous. These symptoms had preceded the menstrual suppression by many months. On admission, she was evidently weak, and very much anæmiated; her tongue was furred, and her bowels were constipated; there was much tenderness, also, of the lower part of the spine; the uterine pain was severe, and recurred for the most part in paroxysms. She was ordered an alterative every second night, ten grains of the citrate of iron after each meal, and to have the lower part of the spine rubbed with the tartar-emetic ointment. On the 28th of May she was better, the tongue was pleasanter, and the bowels more regular. The ointment had produced pustulation over the spine, and the uterine pain was less persistent. On the 20th of June, she

was perfectly well in health; the uterine pain was gone, as well as the leucorrhœa; the tongue was clean, and she felt in every respect very well. Menstruation had not yet returned persistently. June 30th, she reported that menstruation took place on the 25th, without pain or discomfort, being rather more than a month from the date of her coming under treatment.

CASE. Hannah C—s, aged 23, single, applied at the Paddington Free Dispensary, March 28th, 1851, in consequence of not having menstruated for five months. Her menstruation had been immediately checked by her getting wet feet; and, until this took place, she had been regular from the age of seventeen, when her first menstrual period took place. Her general health, previous to the suppression, was very bad. She was weak and nervous, and had been obliged to resort to medical advice. She had apparently been both dyspeptic and anæmic. On applying at the dispensary, she was very anæmic, nervous, and depressed; she was also suffering from a catarrhal cold. She was ordered fifteen grains of the citrate of iron after each meal, and to put her feet every night into warm mustard and water. On the 26th of April, having regularly taken the steel, with an occasional aperient, she reported that menstruation had returned, with some degree of pain, on the 18th. Her general health had improved; the tongue was clean; and appetite was good. Previously to menstruation taking place, she had suffered much from leucorrhœa; but since its restoration this had ceased.

CASE. Mary Ann B—t, aged 15, applied at the Paddington Free Dispensary, January 28th, 1851, in consequence of menstruation having stopped. She first menstruated at fourteen, but scantily, and only for one day; and after this she had no menstrual appearance. At the time of this occurrence, she was engaged very closely at dress-making, and her health suffered from the confinement and want of air and exercise. She became very weak, nervous, and irritable, dyspeptic, and feverish. She awoke in the morning unrefreshed; and her tongue was dry, furred, and unpleasant. She had not suffered from leucorrhœa, but had had occasional uneasy sensations in the uterus. She was now very weak and anæmic; and her tongue was dry and furred on awaking in the morning, but apparently clean during the day. Five grains of blue pill every second night, and twenty grains of the ammonio-citrate of iron after each principal meal were prescribed. March 7th. She continued the treatment up to the present time. The steel had been taken generally twice a day; and the pills, on an average, twice a week. Her general health was much improved; the tongue was clean, the appetite good, and the bowels regular. Menstruation returned on the 5th of March.

CASE. Sarah S—e, aged 16, applied February 4th, at the Paddington Free Dispensary, suffering from menstrual suppression, together with severe headache, and general bad health. She had menstruated for the first time twelve months ago, and this took place twice afterwards; but subsequently to this there had been no further menstruation. She had throughout been in a bad state of health, was very weak, and incapable of much exertion. Her tongue had been dry and unpleasant in the morning, and she generally awoke unrefreshed. Her symptoms on admission were those of anæmia in a severe form,

with much disorder of the digestive organs. She was simply directed to take four grains of blue pill every second night, with twenty grains of the ammonio-citrate of iron after each principal meal daily. On the 10th of March she was perfectly well. She had had no headaches or faintings for the last two weeks; her appetite was good, tongue clean, and bowels regular. Menstruation took place on the 4th of March, exactly four weeks from the commencement of this treatment.

CASE. Magdalen M—ll, aged 16, applied, November 16th, at the Paddington Free Dispensary, suffering from menstrual suppression, together with an aggravated form of anæmia, and irritative disorder of the digestive organs. She first menstruated at fourteen, and continued regular until four months ago, when she ceased to be so without any obvious cause. Prior to this, however, she was very weak and out of health; the tongue was occasionally furred of a morning, the appetite bad, and the bowels constipated. She also suffered severely from headaches, dyspnœa, and palpitation of the heart on making any effort. On admission, she had a loud venous bruit in the neck, and all the symptoms of anæmia in a severe form. She was ordered an alterative occasionally at bed-time, and twenty grains of the ammonio-citrate of iron after each principal meal. The bowels were to be regulated with castor oil. On the 26th of January menstruation had returned, and her general health was perfectly good; her appetite had returned, she had a good colour, and felt strong and well.

CASE. Mary Anne B—e, aged 17, applied at the Paddington Free Dispensary, December 3rd, in consequence of suffering from amenorrhœa. She first menstruated at thirteen, and was regular until a year ago, when menstruation became very irregular, sometimes returning every week, sometimes every six weeks, and each return was attended with much pain. Previously to this irregularity, her health was generally very bad. She had felt weak, low, and nervous; her stomach and digestive organs had been much out of order; the tongue dry and unpleasant of a morning; and the bowels confined. All this had been preceded by a great deal of mental trouble and anxiety. Two years ago she lost her brother, who was accidentally killed; and, twelve months previously to that, her mother died. For the last twelve months she had been in a very laborious situation, and had undergone much fatigue. She was now very anæmic and weak; her stomach and digestive organs were much disordered: she was hysterical and nervous, and suffered a good deal from leucorrhœa, with pains in the back. She had not menstruated for six months. She was directed to take five grains of blue pill at bed-time occasionally, and twenty grains of ammonio-citrate of iron after each meal. On the 27th of December, she was better; the tongue was clean, and the appetite good. As, however, the leucorrhœa continued, the citrate of iron was omitted, and the muriated tincture given instead, with dilute muriatic acid, and drachm doses of the liquor hydrargyri bichloridi. On the 4th January menstruation returned, and she felt in every respect perfectly well.

CASE. Mary Anne W——s attended, December 20th, suffering from amenorrhœa, together with anæmia and dyspepsia. She first menstruated when between twelve and thirteen years of age, and continued until six months ago, when she caught cold during menstruation, and since then had not been regular. Before this happened, her

tongue was habitually dry, furred, and unpleasant on awaking of a morning; she felt weakly and languid, and was incapable of undergoing much fatigue. On the suppression taking place, her stomach and digestive organs became additionally disordered, and remained so ever since. On admission she was much anæmiated, and was suffering from considerable disorder of the stomach and digestive organs, with much leucorrhœa. She was ordered to take an alterative every second night at bed-time, and the acidulated muriated tincture of iron, with drachm doses of the liq. hyd. bichlor., three times a day. On the 31st of December she was in every respect better and stronger; the tongue had improved, and she had gained colour. Menstruation returned the preceding evening, but was attended with a good deal of pain.

CASE. Augustine A—t, aged 23, applied December 3rd, 1850, suffering from amenorrhœa, pain in the uterus, bearing down, and leucorrhœa. She had not menstruated for six months, and the suppression, she thinks, was occasioned by getting wet feet. Previously to this, however, she was not in good health, her tongue had been dry and unpleasant of a morning, her appetite bad, and her bowels constipated. These symptoms were much increased on the suppression taking place, and had continued persistently ever since. She was also weak, and incapable of much fatigue. To take an alterative at bed-time occasionally, and twenty grains of the ammonio-citrate of iron after each meal daily. On the 18th of December, she reported that she had continued that treatment up to that date, that she felt perfectly well, and had symptoms of returning menstruation; the appetite was good, the tongue clean, and the bowels regular.

CASE. Eliza H—y, aged 17, applied at the Paddington Free Dispensary, November 12th, 1850, suffering from amenorrhœa, in conjunction with anæmia and dyspepsia. She first menstruated at fifteen. But her health at this time was very bad; her digestive organs were irritable and disordered; and she felt weak, and incapable of much exertion. Soon after this, her menstruation became irregular, and then ceased altogether; and she had not again been regular up to the present time. She was now very weak and anæmic, and her digestive organs were very much disordered. She was directed to take an alterative at bed-time occasionally, and the citrate of iron in full doses after meals; to regulate her bowels with castor oil. In little more than a week from the date of commencing this treatment, her health had greatly improved; her digestive organs had become more tranquil and healthy; and, with this improvement, her menstruation returned in a regular manner, and without pain or uneasiness.

CASE. Margaret R—n, aged 31, applied at the Paddington Free Dispensary, September 26th, 1851. She was suffering from occasional pains in the uterus, bearing down sensations, some degree of leucorrhœa, and very irregular and interrupted menstruation. She first menstruated at eighteen; but previously to this, as well as subsequently, she had suffered much from dyspeptic symptoms, a bad tongue in the morning, an uncertain appetite, and constipated bowels. Throughout, she has never menstruated regularly, but for the most part at intervals of seven and eight weeks. She married at eighteen, but never had any family; and on the occasion of her applying for

advice, had not menstruated for seven weeks. Her digestive organs were generally much disordered; the left colon was especially the seat of much uneasiness; and there was very acute pain and tension in the left iliac region, with constipation and a general fulness of the bowels. She was weakly, nervous, and incapable of much fatigue, and always awoke in the morning languid and unrefreshed. There was a loud venous bruit in the neck, and her inner lips and palpebral conjunctivæ were very pale. She had also marked tenderness over the lumbar and sacral regions of the spine. She was ordered to apply sinapisms nightly to the tender part of the spine, to take an alterative every second night at bed-time, and a draught three times a day, containing the trisnitrate of bismuth, citrate of iron, rhubarb, and sesquicarbonate of ammonia. This mixture had the effect of keeping the bowels regular, and relieving the flatus and tension of the bowels. The treatment was continued until the 21st October, and she then reported that menstruation had come on more naturally than it had ever done previously. She continued the treatment up to the 29th, and then reported that she had no uterine pain, uneasiness, or leucorrhœa; that her stomach and digestive organs were tranquil and healthy; and that she considered herself to be in perfect health.

REMARKS. It would be foreign to my purpose to discuss, in the present paper, the specific or proximate cause of amenorrhœa, or to consider how far it depends primarily upon an affection of the ovaries or the uterus. I shall content myself by observing that, in a state of health, a certain consent appears to subsist between the uterus and the ovaria; that this is necessary to the development and continuance of healthy menstruation; and that, although some of the local causes of amenorrhœa may directly or more immediately affect either the uterus or the ovaria individually, the majority are of a constitutional character, and react concurrently upon both, through the medium of their nervous endowments. What, then, is the nature of these constitutional causes? What are the affections of the general system upon which it most frequently depends? What are the relations of amenorrhœa to constitutional disorders?

And, in the first place, I would remark, that one of its most powerful predisposing causes is a morbidly irritable or susceptible condition of the nervous system at large—a condition which is sometimes met with as an inherent specific or original defect of the constitution, but more frequently as the result of various causes which tend to debilitate or depress the general health. Of these, I would more especially mention the influence of long-continued, severe, or exhausting diseases; a too artificial mode of living; irregularities of diet; sedentary or enervating pursuits; immoderate study; over fatigue; late hours; insufficient rest or sleep; a residence in unhealthy localities; and continued grief, mental emotion or uneasiness. These causes, sooner or later, seldom fail to produce an irritable condition of the nervous system, which is favourable to the production of various functional disorders. Under the influence of these causes it happens, that the uterine organs are imperfectly supplied with nervous energy; that the balance of the various functions of the body is readily disturbed, and that impressions, which, in a state of health, would be received without

any unfavourable reaction, become the cause of many local irritations, and consequent disorders. The same causes, again, tend to interfere with the process of sanguification itself; and thus the uterus, deprived of that pabulum from which its secretion is to be elaborated, becomes, under the influence of the menstrual effort, not only morbidly irritable, but, at the same time, incapable of furnishing that secretion which is best calculated to relieve such morbid irritability. Can it, then, be a matter of surprise that uterine irritation, thus set up and continued, should react unfavourably upon the constitution, and become the efficient cause of many secondary disorders? This state of the nervous system, then, especially demands attention in the treatment of amenorrhœal affections; and the difficulties which we often meet with in correcting it, constitute some of the principal difficulties with which we have to contend in the treatment of amenorrhœa. When, for instance, it is connected with mental and moral influences, which do not admit of removal, or with harassing or laborious pursuits, which cannot be relinquished, we can expect to do little more than to palliate. But, in other cases, much may be done by judicious measures, by such as invigorate the body, and act agreeably upon the mind and the nervous system; by the regular employment of cold bathing, the administration of bark, bitters, chalybeates, or other mineral tonics, and such attention to diet and regimen as is calculated to fulfil the indication which has been proposed.

Another predisposing cause of amenorrhœa is to be found in a defective or impoverished condition of the blood, which, like the state of the nervous system which I have spoken of, is sometimes met with as the result of original causes, but more frequently as the effect of various incidental circumstances, which tend to derange the general health. In the instance of females whose constitutional powers are not great, it is often met with as the mere consequence of the growth of the body, and the development of those changes which are incidental to puberty, of which the function of menstruation itself may be considered as one of the most important. But, however induced, whether from original or applied causes, it is almost invariably found to be followed by, or associated with, disorder of the stomach and digestive organs, which cooperates with it in giving rise to a state of uterine irritation which is incompatible with the maintenance of healthy menstruation. Thus uterine and gastric irritation are simultaneously set up, and by their reciprocal reaction on each other tend to disturb the whole constitution, and, in some cases, to give rise to that aggravated form of constitutional derangement which is known as chlorosis. In the treatment of this affection, then, it is necessary to bear in mind, and to rectify, the various collateral disorders with which anæmia may be associated; to endeavour to appease uterine and gastro-hepatic irritation, at the same time that we endeavour to improve the condition of the blood; and, concurrently with this, to correct such disorders as may have followed upon local or spinal irritation in any part of the body.

A third cause of menstrual irregularities, is the existence of functional or organic disease in remote organs. In the progress of severe or long-continued disease of any important organ, menstrual irregularity or suppression is almost inevitably met with; and I

may refer to affections of the lungs, and to phthisis in particular, as illustrating this remark. But I believe careful investigation will often lead to the discovery that menstrual irregularity is frequently excited, and continued, through the influence of mere irritative disorder of various organs or parts reflected upon the uterus, which are not always very obvious, and therefore require to be sought for to be recognised. Of these, one of the most frequent is gastric or hepatic derangement, which often occurs in a very decided manner, without being indicated by any very manifest symptoms.

I have referred to this subject more particularly in treating of chylopoietic disorders, in a former part of this paper; and would now merely observe, that a similar view has been taken by other writers. Thus Dr. Butler Lane observes, that, as the result of three years' experience and research, he is enabled to affirm, that an anatomical and physiological relationship exists, in the female, between the liver and the uterus; and that such relationship is apt to be disturbed by many disorders which primarily implicate either organ individually. M. Roche, however, takes a much wider view of the subject; and, in an article in the *Dict. de Méd. et de Chir. Pratiques*, tom. ii, p. 137, maintains that none of the predisposing causes of amenorrhœa are so powerful as the existence of any serious chronic disease, whatever may be its nature, whether chronic gastritis, or chronic pneumonia, or pleurisy; and so frequently does this species of cause appear to him to operate, that he pronounces that amenorrhœa is in nearly all cases but a symptom, and not a disease. Without going the length that is here contended for, the circumstance in question deserves to be carefully considered in medical practice; and it points to the importance and necessity of looking beyond the mere condition of the uterine organs, and to the state of the general health, in order to become acquainted with the causes and the proper treatment of amenorrhœa.

The cases which I have brought forward in this paper essentially support the truth of the foregoing observations. In nearly all, it would appear that amenorrhœa had been attended by constitutional weakness or derangement, an irritable state of the nervous system, a defective condition of the blood, and irritative disorder of the stomach and digestive organs, whilst their histories also tend to shew that in most cases these derangements had existed antecedently to the menstrual suppression. On the other hand, in those in which this occurred from the direct operation of causes upon the uterine system, it would appear that it had been rapidly followed by some form of constitutional disorder, which had attended it throughout, and to which may be attributed the production of a state of general and uterine irritation, incompatible with the return or continuance of healthy menstruation. I say this, because in all, on correcting the constitutional disorder, the menstrual functions were spontaneously resumed without any specific treatment. Whether then menstrual suppressions arise from local or constitutional causes, it is equally necessary to attend to and remove the latter; for, although the constitutional disorder may have been in the first place but a symptomatic affection, it is nevertheless calculated to react injuriously upon the uterine organs, and so to interfere with the return of their menstrual function.

II. CASES OF MENORRHAGIA CONNECTED WITH DISORDERS OF THE DIGESTIVE ORGANS.

CASE. Mrs. E. B. consulted me June 28th, 1849, under the following circumstances. About three months ago she had a miscarriage, subsequently to which she suffered much from menorrhagia, and for this more especially she sought advice. It was, however, evident that for some time previously to this miscarriage her digestive organs had been greatly disordered, that this disorder had continued throughout her illness, and was very marked at the time of her consulting me. Her present symptoms were the following: the tongue was greatly furred throughout, and was especially unpleasant on awaking in the morning; she slept badly, and felt languid and unrefreshed on getting up; her appetite was bad and capricious; she felt uncomfortable after eating, and suffered much from flatulence; her bowels were irregular, and for the most part constipated; her nervous system was irritable; she felt weak, and was easily alarmed. There was a loud venous bruit in the neck, and she had all the symptoms of a marked form of anæmia. Independently of the hæmorrhage from the uterus, there was a profuse puriform discharge from the vagina also, and this had led her medical attendant to suspect the existence of ulcerative disease of the cervix uteri. Believing, however, that the uterine disease was rather secondary to the disorders I have mentioned than idiopathic, I proposed, in the first place, a trial of constitutional treatment. Three grains of blue pill, and seven of the extract of henbane, were directed to be taken every second night, with a warm rhubarb draught the following morning; she was directed to use a tepid hip bath both night and morning, and to take ten grains of the citrate of iron with salines in effervescence three times daily. On the 4th of July, she was better; the uterine hæmorrhage was less, the tongue was cleaner, and the leucorrhœal discharge had also lessened; she felt stronger, and was more equal to exertion. On the 18th July, she was still better as regarded her general health; she looked better and felt stronger, the hæmorrhage had entirely disappeared, and her appetite was good.

CASE. Mrs. F. S., a young lady of rather delicate constitution, was attended by me in her first confinement on the 1st May, 1849; the labour was natural, comparatively easy, and over in about eight hours; no unfavourable circumstance occurred in connexion with it, and at the end of a fortnight I left her in every respect perfectly well. On the 11th June, I was again summoned to see her, in consequence of a somewhat profuse sanguineous discharge from the uterus having taken place, and continued for several days. I found her very much out of health, and in every respect in a very different condition to that in which I had left her; she was weakly, nervous, and very hysterical and anæmiated, and her stomach and digestive organs were greatly disordered. On inquiring into the history of these symptoms, it appeared that on account of some little apprehension on the subject of her child, the stomach and digestive organs had become very irritable and disordered, and that consequent upon this, uterine hæmorrhage had taken place. At the time of my visit, her tongue was much furred, her appetite was bad, and her bowels were flatulent and constipated. These symptoms, I found, had attended the uterine hæmorrhage throughout; and had evidently followed upon the digestive disorder. Under these

circumstances I did not hesitate to prescribe exclusively for this latter affection. For a week she was simply directed to take alteratives at bed time, with mild aperients in the morning; and under this treatment alone, in the course of the week, the uterine discharge had nearly disappeared. Seeing, however, that she was very anæmic, I now ventured to give the citrate of iron twice a day, in addition to the other treatment, which was directed to be continued at longer intervals. At the end of another week, the hæmorrhage had entirely ceased, and she was in every respect better; but I advised her still to continue the alterative and tonic treatment concurrently for some time longer. In the course of a short time, however, the hæmorrhage again returned, and I found that it had again been preceded by chylopoietic disorder, which appeared to have arisen from her having discontinued the alterative medicine and taken exclusively the tonic. I again pointed out to her my belief that the uterine disorder was a consequence of that of the digestive organs, and urged her again to revert to the alterative treatment which I had previously recommended. From this time, she regularly took it at intervals, until her digestive organs had become healthy, and concurrently with it she took also the citrate of iron. She continued to progress favourably, without any styptic being given, or any local treatment being employed, and has never had any return of uterine hæmorrhage up to the present time.

CASE. Rebecca G—r, aged twenty-four, applied December 3rd, 1850, suffering from almost continuous menorrhagia. She was confined on the 5th November, but her labour was neither attended nor followed by any particular hæmorrhage or any puerperal illness. It appeared, however, that she had never been quite free from a slight sanguineous uterine discharge; and at the time of her applying for advice, this had become very profuse. From her history, it appeared that previously to her labour she had suffered much from anxiety and trouble; that the tongue had been dry, furred, and unpleasant, both prior to her labour, as well as subsequently to it; she had also been thirsty and feverish. At the time of her applying to me, she had all the symptoms of severe gastro-intestinal disorder; the tongue was extremely furred, her appetite bad, and her bowels flatulent and confined; in addition, she was weak, low, and very much anæmiated. She was directed to take an alterative every second night at bed time, and during the day small doses of the muriated tincture of iron, with muriatic acid and the liq. hyd. bichlor. On the 20th December, she had perfectly recovered, without any specific treatment whatever. The tongue was clean, the appetite good, her bowels regular, and the thirst and fever gone; the hæmorrhage had entirely ceased, and she had no pain in the uterus, or discharge of any kind.

CASE. Matilda B—n, aged twenty-one, was attended by me the 23rd December, 1850, in consequence of suffering from profuse menorrhagia, which had continued for several days uninterruptedly. The history of it was the following: she had recently left France, and was living as nursemaid in a family in which she was a perfect stranger; on crossing the channel, it appeared that her stomach had been very much disturbed, and that she had incessant retching, without being actually sick. Soon after the passage, and while the stomach was yet much disordered, menstruation came on, and became unnaturally

profuse and persistent. Throughout this, her stomach continued very irritable and much disordered, her tongue was much coated, her appetite bad, and the bowels generally flatulent and constipated; the stools also were scanty and unhealthy. As the hæmorrhage was very profuse, gallic acid was given in the first place, together with alteratives and aperients; but as it became more and more certain that the hæmorrhage was a simple consequence of chylopoietic disorder, astringents were thrown altogether aside, and simply alteratives and aperients were given. Fifteen grains of blue pill were given in divided doses in the course of twelve hours, and a mild aperient subsequently; in twenty-four hours after this, the digestive organs had become more healthy and tranquil, and the tongue clean; with this change the menorrhagia ceased, and did not again return.

CASE. Elizabeth K—g, aged 44, attended at the Paddington Free Dispensary, January 21, 1851. She was suffering from extreme weakness and prostration, headache, and nervous symptoms, which were evidently connected with a severe form of anæmia, which was consequent upon profuse and persistent menorrhagia. Her history was the following. She was married at twenty-one, had had nine children, and had suckled each on an average upwards of a year. About fourteen months ago, she had a severe bowel complaint, which confined her to her bed for five weeks, and reduced her strength very much. Almost immediately after this she became pregnant, and throughout the whole of gestation suffered very much from ill health. In particular, she was very weak, and had marked derangement of the stomach and digestive organs; she was moreover on several occasions threatened with premature labour, each threatening being preceded and occasioned by an aggravation of the chylopoietic disorder. She stated also, that whenever her stomach was much disturbed from any cause, uterine uneasiness and a threatening of premature labour invariably came on. About five months ago she was confined, and had an easy labour, but ever since she had been suffering from increased weakness and prostration, and various nervous symptoms. Her tongue on awaking was habitually dry, furred, and unpleasant; the appetite bad; the bowels irregular, at times being costive, and at other times purged; they were also, for the most part, flatulent and uncomfortable. She continued to suffer for ten weeks after labour from a slightly coloured uterine discharge; and, although suckling, she now menstruated profusely every month. She had all the symptoms of anæmia in an aggravated form; was weak, nervous, and irritable, and had considerable disorder of the stomach and digestive organs; with this there was profuse menorrhagia, which was always increased by any aggravation of the gastric disorder. The treatment recommended was five grains of blue pill every second night, and small doses of the muriated tincture of iron, with muriatic acid and the liq. hyd. bichlor., during the day. On the 20th February, she had not been able to attend for three weeks in consequence of weakness: she had consequently taken no medicine during this period, and the hæmorrhage had returned severely. She was directed to renew the medicines previously ordered, and in addition, to take five grains of gallic acid every four hours. On the 26th February, the hæmorrhage was much better: the tongue and appetite had also improved. She was now directed to

take bismuth and citrate of iron three times daily, with the alterative occasionally at bed-time. From this time she rapidly improved in health: the menorrhagia disappeared, and it has not subsequently returned.

CASE. Mrs. H. M—y applied at the Paddington Free Dispensary in October, suffering from uterine hæmorrhage, which had continued almost uninterruptedly for three weeks. She had been confined eleven months ago, and was still suckling her child, and she was consequently weak, nervous, and anæmic. The hæmorrhage had been preceded, and was probably immediately occasioned by mental anxiety, and consequent upon this the tongue and digestive organs had become in the first place disordered. The lower part of the spine was very tender on pressure; the tongue was dry, furred, and unpleasant on awaking in the morning, but not obviously coated or disordered during the day. Her appetite was bad, the bowels flatulent, and, for the most part, confined. She felt weak, nervous, and depressed, and there was a loud venous bruit in the neck. She was directed to take five grains of blue pill every second night, and the citrate of iron, with bismuth, during the day, combined at first with gallic acid; to discontinue suckling, and to apply sinapisms to the lower part of the spine at stated intervals. In three days the hæmorrhage had ceased, but the tonic and alterative treatment was continued a fortnight longer. At the end of a month, she reported that she had had no return of hæmorrhage, and felt perfectly well. The tongue was clean; the appetite good; she felt less depressed and generally stronger, and also in good spirits. I have since seen her, and find that no return of hæmorrhage has taken place.

CASE. Mrs. Elizabeth J—s, aged 37, applied at the Paddington Free Dispensary, July 12th, 1851, in consequence of having profuse menorrhagia or metrorrhagia. She had been labouring under this affection for five years, and during the whole of this period had scarcely been a week free from some degree of uterine hæmorrhage. She could attribute it to no other cause than mental anxiety and trouble, which she said she had experienced much of. Throughout the whole of this period, as well as previously, her tongue had been habitually dry, furred, and unpleasant on awaking in the morning, but for the most part it was tolerably clean during the day. Her appetite was bad, and she had frequently pain at the epigastrium after eating. The bowels were also flatulent and confined; she was generally weak, nervous, and depressed, and felt languid and unequal to much exertion. These symptoms, I learnt, had preceded the uterine affection, and had continued throughout its progress. She had been under medical treatment almost constantly for the last five years, but still continued to suffer, with very little amendment in spite of what had been done. On applying at the Dispensary, she had all the foregoing symptoms in a very marked manner. Her digestive organs were very much disordered, and the lower part of the spine was also very tender upon pressure. On examining the uterus digitally, there was no disease discoverable either in the mucous membrane or the cervix uteri. The treatment recommended was therefore entirely of a general character; she was directed to take alterative doses of calomel and henbane occasionally at bed-time, and the sulphate of soda in half-ounce doses every morning, and to apply a blister to the lower part of the spine,

and to keep it open for some days with savine ointment. This treatment was continued for about three weeks. At the end of this period the uterine hæmorrhage had ceased, the digestive organs had become healthy, and the spinal irritation removed. Four months subsequently I again saw this patient, and learnt from her that throughout this period she had continued perfectly well. She had menstruated regularly and normally, without any disposition whatever to hæmorrhage.

REMARKS. Many writers have remarked, that in most cases of excessive menstruation the general health is greatly deranged. "There is", says Dr. Ryan (*Manual of Midwifery*, 4th edit., p. 346), "indigestion, flatulency, heartburn, pyrosis or water-brush, pains in the back and chest, loins, and extremities, lowness of spirits, and generally leucorrhœa, or whites. These symptoms point to the existence of chylopoietic derangement in a marked form, and it is important to determine whether this occurs as the cause or the consequence of the menstrual disorder." The cases I have recorded tend, I think, to determine this point, or, at least, to show that in a certain proportion of cases the symptoms in question, when met with in connexion with menorrhagia, are its antecedents rather than its consequences; and, inasmuch as the cure of the uterine disorder is often to be effected by that of the chylopoietic, without any specific treatment whatever, as was shown in several of the cases which I have given, it must follow, that it is not merely its antecedent, but its positive cause also. There cannot, for instance, I apprehend, be any doubt that in those the disposition to uterine hæmorrhage was in a great measure the consequence of gastro-intestinal derangement: this view is supported, both by their histories and the results of treatment.

But further, many collateral circumstances are in favour of this view. It was observed by Mr. Abernethy, that his observations in surgical cases led him to attribute many hæmorrhages to a sympathetic affection of the heart and arteries, excited by disorder of the digestive organs. He observes, indeed, that the whole capillary system of the body appears to be sympathetically affected by various states of the stomach. The connexion between uterine hæmorrhages and derangement of the stomach and digestive organs has been specially referred to by Dr. Ayre in his work on *Disorders of the Liver*. He has drawn attention to the fact, that many forms of *post partum* hæmorrhage depend upon it. He ascertained that in many of these cases the liver was especially affected, and that calomel was the most efficient medicine that could be employed; at first, he ascribed its efficacy in restraining uterine hæmorrhage to the evacuation of morbid matters from the bowels; but, he observes, further and more accurate observation of the colour and condition of the stools, of the course of the disorder, and the effects of the remedy, convinced him that such was not the case, and that the efficacy of the medicine arises from its alterative action upon the liver and other organs of digestion.

So also the cases which have been published by Sir James Eyre, in his *Practical Remarks on some Exhausting Diseases*, and his experience with oxide of silver as a remedial agent in uterine hæmorrhages of various kinds, would seem to bear a similar interpretation; for he has shown that this medicine, which has extraordinary power in allaying morbid

irritability of the gastro-intestinal mucous membrane, and as such is deservedly popular in the treatment of dyspeptic affections, is, at the same time, a valuable remedy in cases of menorrhagia. He observes, indeed, that he had found it superior in such affections to all means which he had employed during an active professional life of more than thirty years. The efficacy of bismuth in similar affections, under certain circumstances, which I have myself personally witnessed, is in favour of the same doctrine; and, indeed, I think it may be conclusively shown from these and a variety of other circumstances, that many forms of menorrhagia owe their origin chiefly to an irritable or disturbed state of the stomach and digestive organs, and that where these pathological conditions coexist, we are by no means justified in assuming that the latter is the mere consequence of the former. On the other hand, the history of such cases, if carefully investigated, will often demonstrate that it had rather preceded than followed upon it; and this circumstance, which is especially shown in the foregoing cases, is of extreme importance in practice, for by bearing it in mind, we shall avoid directing our remedies merely to an effect or consequence, whilst the original cause is overlooked.

(To be continued.)

Chester Place, Hyde Park Gardens, February 1852.

ON VASCULAR TUMOUR OF THE MALE URETHRA.

By H. BURFORD NORMAN, Esq., F.R.C.S., Surgeon to the North London Infirmary for Diseases of the Eye, and to the St. Marylebone General Dispensary.

THE subject of the present essay, for the materials of which I am indebted wholly to observations made by others, is one to which I venture to invite attention, not because the disease is of frequent occurrence, or perhaps possessed of much intrinsic interest, but rather on account of its relation to the condition of the female urethra, of which, in the last number of this Journal, I treated somewhat at large, and which is both of frequent occurrence and of considerable interest; and also on account of the relation which the disease of the urethra of both sexes bears to other, and analogous growths affecting different parts of the body, of which I hope to speak hereafter, and to which the present and preceding communications will therefore be introductory.

My attention was first drawn to the fact of the existence of the disease in the male urethra by a passage in Mr. Broomfield's *Chirurgical Observations*, in which the author asserts, that "he has seen fungi of considerable length from the orifice of the urethra, both in men and women". It is evident, from the observations which follow in reference to the "fungi" of the female urethra, that they can only be the ordinary vascular tumour of the meatus.

Mr. Broomfield's work does not contain the history of any instance of the disease which he professed to have seen; but the following examples which I have derived from other sources, although few in number, and therefore perhaps less full and varied in particulars than could be desired, will serve, as they must in default of others, to confirm that author's testimony as to a matter of fact, and to acquaint us to a considerable extent with the details of the subject.

Arnaud¹ supplies us with the three following cases.

CASE I (Obs. 10), "is that of an old officer, who had for twenty years suffered from a polypous excrescence which came out of the urethra, near half an inch long, and which was considered as the offspring of a gonorrhœa which he had contracted in 1711. The vegetation was red, fibrous, softish, and almost filled up the orifice of the urethra. It rendered the *egress of the urine somewhat painful, and the stream twisted*. After all known methods had been tried without success, he went from Gibraltar to Montpellier, to place himself under the care of Mr. Fitzgerald, Professor of Physick to the Faculty there. The Doctor undertook his cure *conditionally*, promising to depurate his blood from any virus with which it must have been infected, but not to cure the excrescence. After a course of physick, which did not affect the excrescence, the Doctor advised him to cut it off, as he had done for *twenty years* before. The excrescence stuck by him fifteen years more, he having recourse to the same operation. At last it dried up of itself and never reappeared; but the urine did not flow freely enough, and in 1756 he applied to Mr. Arnaud, who discovered a very hard carnosity in the fossa navicularis, which he treated successfully by the medicated bougie."

Arnaud calls this "the first case which establishes the possibility of polypous carnosities of the urethra"; a statement which, as intended to apply to the male organ, I have neither the means of refuting nor of confirming. But the case itself seems to be authentic, and worthy of the record which Arnaud has preserved of it. Not less deserving of being preserved is the little sketch which he gives of the Montpellier professor of that day, and his mode of exercising his functions as a physician. One cannot help admiring the mixture of simplicity and prudence with which he "undertook the cure" of the poor officer. He was too wise a man to ignore the power of physic, and to send back his patient to Gibraltar with the cold comfort, "I can do nothing for you", and so also to forego the opportunity of turning him to account; too well aware of the weakness of humanity, not to promise something, and yet too prudent to promise that which it was not in the power of medicine to accomplish. The relation of the matter, indeed, furnishes a text that might be reflected on with profit by the members of our profession, even at the present time. What an instructive example to the uninitiated who promise nothing; what a lesson for those unscrupulous and unprincipled practitioners of the healing art, who promise everything that can be wished, but which they know they cannot perform; and how admirable a pattern of that "middle course", which prudence and sound wisdom point out to all! But as it was

¹ ARNAUD. Plain and Easy Method of Curing the Disorders of the Bladder and Urethra. London: 1769.

not the purpose of this recital to furnish the text of an essay upon medical ethics, I will pass on to the next case, which is also related in the following words, in Obs. 11, of Arnaud's work.

CASE II. "Mr. Key, in the year 1745, whilst in Flanders, was consulted by a gentleman of that city, who for six years had had an obstinate gleet; his urine involuntarily slipt away, so that he was obliged to wear cloths continually in his breeches to keep his linen dry; the stream of his urine was forked, and sometimes divided into many streams. On opening the orifice of the urethra, (which had been lacerated by an accident some years before down to the frænum), Mr. Key discovered 'a bit of flesh', and as it presented, he brought it forward with his forceps, and snipped it off with his scissors. By the use of medicated bougies, the gleet was cured in twenty-two days, and in the same period, several obstructions of the urethra, and three remarkable fleshy warts in the orifice, also yielded by suppuration."

CASE III. Obs. 12 of the same work, is a case also related by Mr. Key, in which "incontinence of urine had existed eight years, occasioned by a carnosity situate near the bulb of the urethra, and accompanied by a running of purulent matter. Mr. Key undertook the cure by medicated bougies, which, after three weeks' suppuration, effected the expulsion 'of a fleshy substance as big as a pea'. There was afterwards no more obstruction to the passage of the instrument."

I am not sure whether this last case ought rightly to be admitted here, as at the time at which it is said to have occurred, authors and practitioners, in their zeal for the medicated bougie or candle, (in favour of which, indeed, Arnaud's book was written), were apt to talk and write very loosely about carnosities and fleshy obstructions; and, it may be, that sometimes a simple coagulum, expelled after the use of these instruments, may have been called a carnosity, and its expulsion have been regarded at once as the cause of the cure, and an evidence of the wonders wrought by the bougie. Whatever opinion may be formed on this point, it is quite clear that in the two former instances recorded, the growths from the urethra were seen and handled and excised, and their appearances are particularly stated, so that we may safely adopt the accounts as authentic narratives, upon which to found certain notions regarding some of the characteristics of this morbid growth.

CASE IV occurred recently at the University College Hospital, in the practice of my friend Mr. Erichsen, who kindly furnished me with the following account. "Robert Moggridge, 21 years old, presented himself to me at the hospital, for stricture. On examining the urethra, I found a bright red, and very vascular growth, situated within the urethral orifice. It was nodulated, raspberry-like, and bled on being touched. Its attachment was not pediculated, or but very slightly so, and the growth, which was about the size of a small cherry-stone, lay entirely within the urethra. I removed it with a pair of scissors; it sprouted again; was again removed, and the surface from which it grew was touched with nitrate of silver, after which it did not reappear. It was the sole cause of an obstruction to the passage of the urine, there being no stricture."

CASE V. Finally, my friend Dr. Quain has informed me, that he was requested some time since, by a man under his care at the Brompton

Hospital for Consumption, to examine his urethra. At its orifice, he found it presenting "a villous, spongy state, accompanied by some mucous discharge". This appearance struck him as being so peculiar, that it remained impressed upon his memory, although he had no recollection of the history or other symptoms of the disease, at the time he related the circumstance to me.

The characteristic features of the vascular tumour or excrescence of the male urethra, as described in the preceding narratives of cases, will be seen to bear a close resemblance to the varied forms of the disease in the female. In the case mentioned by Dr. Quain, we have simply "a red, villous condition of the orifice"; in that of Mr. Erichsen, "a distinct, nodulated, raspberry-like, *non-pediculated* excrescence, bleeding when touched"; in Arnaud's first case, "a polypous excrescence, hanging half an inch out of the urethra, red, fibrous, and softish"; in his second case, seen by Mr. Key, "a bit of flesh in the orifice"; and, in his third, "a fleshy substance as big as a pea". Who that has seen much of the disease in the other sex will fail to recognise all these varieties?

The effects likewise are very similar: "a mucous discharge", "difficulty of making water", with "pain", "twisting and dividing of the stream", and "incontinence of urine", being those named. The sensibility of the growths does not seem to have been in any instance very great.

The patients, it appears, were also of different ages, and the causes obscure or altogether unknown. In two instances, the growths showed a great tendency to grow again after excision; one was very obstinate, and there appears to have been no effort made to counteract the tendency, which at length indeed ceased of itself; in the other, it was readily overcome by the application of caustic. In no one instance is there evidence of anything like a malignant nature having belonged to the growths; which, in all probability, had they been carefully examined, would have been found to have possessed the same anatomical characters as exist in the excrescences of the female.

In the treatment, the same means are, it may be presumed, equally applicable and equally serviceable in either sex; and, in the present state of our knowledge, when we have no facts to guide us as to the constitutional origin of the malady, we must be content if our therapeutics in these cases are not in advance of our pathology. Promises "to depurate the blood" by constitutional treatment, leaving the local disease to itself, would not now do either for physician or surgeon.

3, Duchess-street, Portland Place, Feb. 11th, 1852.

A CASE OF SUPPOSED VESICAL GONORRHŒA :—

AND ON THE NECESSITY FOR A MORE DISTINCTIVE NOMENCLATURE.

By R. G. MAYNE, M.D., Surgeon of the Lock Hospital, Leeds.

By this name—and, so far as the specific term is concerned, it is a very absurd one—is intended to be designated what I am induced to think was an example of so-called gonorrhœa, affecting the mucous membrane of the bladder; not simple cystitis, or what would be regarded as the sympathetic inflammatory affection caused by irritation in the urethra under that complaint, but actual *gonorrhœa* present in the bladder itself, producing from its internal surface a plentiful mucopurulent, or purulent discharge, in the same manner as it does from the urethra, and cured by the same treatment as is effectually pursued in ordinary attacks of that canal. I do not for a moment flatter myself that the correctness of this idea is beyond question; on the contrary, it cannot be more scrupulously regarded by others, than it has been hesitatingly adopted by me. Still, it seemed to possess sufficient importance, at least to warrant its being given expression to, in order that it may be fairly weighed, and disposed of according to its value. I have had only this one case of a marked character; and have not met with any allusion to another in authors who have written on the general disease. I beg, therefore, to be allowed to state everything as it occurred to me, so as to afford the best illustration in my power of the manner in which the impression referred to was received.

CASE. On 11th October, I was sent for, to a considerable distance, to see a young man, who had been rigorously confined to his bed for above six weeks. Arrived at my destination, I of course objected to see the patient, except in the presence of his ordinary medical attendant; but was informed that that gentleman, having declined to meet one whom he did not know, had been dismissed. I found my new patient to be about seventeen years of age, fair-complexioned, of the sanguineo-nervous temperament, sadly reduced in flesh, pallid, and emaciated; indeed, as if he were in advanced consumption. I could get no medical history of the case, owing to the circumstance already alluded to. From the patient and his mother, however, I learned that he had been complaining since shortly before the period mentioned, of uneasiness in the loins, and slight tenderness over the region of the bladder, for which his adviser had enjoined strict confinement to bed; that he had taken much medicine without benefit, and thought that latterly he had been getting worse; that on some anxiety being expressed about his wasting condition, the medical attendant had called a highly respectable physician into consultation, who agreed with him, it appeared, both as to the case and its treatment; but what they may have considered to be the nature of the one, or upon what indication they pursued the other, was not shewn to me. I only ascertained that the youth had passed *per urethram* a small calculus, some time before my having been called to him, and that thereupon a notion was imparted of there being probably another stone in the bladder, as the source of all the mischief. I further learned, that, for a considerable time past, his urine, on being allowed to rest for a few hours, had always deposited a large quantity of thick yellowish substance, amounting to about a

fourth or fifth of its quantity, which, on agitation, again mixed thoroughly with the urine, but if undisturbed seemed adherent to the bottom of the vessel; that inflammation of the bladder was reputed to be a part of his ailment, for which, indeed, he had had a blister applied over the sacrum, but without producing the slightest amendment; and that this formed the reason (as they believed) why he should not leave his bed, on pain of serious evils. The patient informed me that he had contracted gonorrhœa three months before, or about six weeks ere he was thrown upon his bed, and had been treated for it, by the same medical man who had latterly attended him for several weeks; but was now as bad as ever. Having patiently listened to these imperfect statements, I began to scrutinise for myself.

In all that had been recounted, I could discover no good cause for the spare diet, confinement to bed or even to the house, nauseated stomach, and their combined wasting effects. I found no tenderness, either of the renal or sacral regions, and only very slight uneasiness over the bladder, when strongly pressed on; but no other ailment whatever, save the urethral affection. There was neither cough, ache, nor pain; he could sit up, turn or move about in bed, or get out of it with such alacrity as the dwindled condition of his legs would allow, but without the slightest indication of suffering. Some difficulty was experienced in attempting to rouse him into a cheerful mood, so impressed was his mind with the notion of a fatal issue. When told to rise, get himself dressed, and take a little nourishing refreshment,—then, as the day was fine, to go out for a walk with some friend's help, return to a good meal, and repeat the same course as often as he pleased, only avoiding stimulating liquors, he looked bewildered and incredulous, as if he were mocked. Fixed as his whole thoughts had been upon a fate very different, he could scarcely believe me serious; and, in fact, as I afterwards learned, did not dare venture out of bed, till after long persuasion, on the following day. From that date, however, he persevered, rapidly improving in general health, without a bad symptom; on the third day afterwards, as will be seen, he paid me a visit at my own house.

So far as my patient and his mother understood the former medical attendant's opinion of the case, and the treatment pursued, his complaints were cystitis, or inflammation of the bladder, dependent, or not, upon the assumed presence of another stone in the bladder, and the urethral discharge. Of the first, there existed no marked symptom save the large deposit in the urine; which, however, if really the result of inflammation, was only likely to be an effect of chronic inflammation of long standing, and that it could not, in this case, be. The second was altogether conjectural. The existence of the last alone was indubitably demonstrable. I passed a sound into the bladder without being able to detect the presence of a calculus, but found the neck to be highly irritable; and my patient informed me, he had been for some time annoyed by an urgent call to pass his urine several times in the course of the night. On minute inquiry, I learned that eighteen months previously he had experienced slight uneasiness in the bladder, and noticed some turbidity of the urine, both of which had disappeared on his going to reside for a time with some friends in Ireland; but that soon after his return home, which occurred shortly before he con-

tracted the gonorrhœa, the uneasy sensations about the bladder, and the frequent desire to void its contents, began to be again felt. I further ascertained, that he had been treated for the urethral discharge by copaiba in some form, with slight improvement, for about a month before taking to bed, and for some time subsequently; that he had taken medicines, of one kind and another, till his stomach would bear no more; the deposit in the urine, which gradually appeared since the gonorrhœal attack, had latterly greatly increased; and his mother, seeing him getting daily worse, weaker, and thinner, had resolved on changing his medical attendant. His age and evidently sound constitution, together with the information obtained, precluding all idea of chronic cystitis as the cause of the copious deposit, it seemed wholly unaccountable, except on the ground assumed in the outset, that the case was one of so-called gonorrhœa affecting the mucous coat of the bladder.

I explained my views, as well as was practicable, and readily obtained consent to the employment of any measures which might be judged necessary. It was arranged that the patient should come to me in three days hence, for the purpose of commencing treatment.

October 14. The patient came according to appointment. I introduced into the urethra, and down into the neck of the bladder, a gum bougie, smeared with a strong and firm caustic ointment—fifteen grains of the nitrate of silver to one drachm of simple ointment—and desired the youth to return to me in a week; but did not yet supply him with any internal medicine, because of the weak state of his stomach.

Oct. 20. He returned with still a slight discharge; but, as the entire effect of the caustic might not have passed off, nothing further was done.

Oct. 25. The discharge had somewhat increased, and returned to more of a yellow colour, a circumstance contrary to usual experience of the abortive treatment thus pursued in the case of males. I therefore again applied the anointed bougie, as efficiently as I could, and desired him to come back on the fifth day thence, in order to commence with the use of medicine, which his bodily condition now fully permitted.

Oct. 30. He came accordingly, and took with him a week's supply of a copaibal mixture, containing four drachms of the balsam, to eight ounces of water, one ounce for a dose, three times a day.

November 7. The discharge was still persistent; had positively again appeared, after its second temporary subsidence having been effected by the caustic ointment. The occurrence was almost unprecedented and inexplicable, save by the diagnosis formed, which it thus unequivocally confirmed. In no other way was it conceivable that the urethral membrane, cured by the caustic application, as happens in other cases nearly without exception, should become again diseased, than that it had been reinfected by being subjected to the contagious influence of the muco-purulent or purulent discharge of the unhealthy vesical membrane. Acting upon this opinion, and judging that the copaiba had not yet had time (only one week) to make any very decided impression on the state of the bladder, I enjoined its steady continuance, and once more introduced the anointed bougie.

Nov. 14. On his appearance to-day, he reported that he had only seen a little watery discharge, and that the condition of the urine was

greatly improved, the proportion of deposit being considerably reduced; as also the irritability of the neck of the bladder was less, so that he was not so often troubled to pass his urine. Directed to continue the *copaiba*.

Nov. 21. No discharge, but about a drop, or half a drop of transparent fluid (which is, in fact, the natural secretion in a state of health), and the deposit still less.

Nov. 28. Greatly improved in every respect, the deposit having diminished down to a mere shadow of a cloud, what would not have attracted notice in the case of any one who had not been similarly complaining. My patient was become as stout, full-faced, and comfortable in spirits and bodily aspect, as could be wished. He and his friends were desirous that he should speedily again repair to Ireland, where a situation of some importance was promised him; and from a fear of relapse by stopping the treatment even a day too soon, I proposed, as a safeguard, to act on the mucous membrane of the bladder, by injecting a caustic solution into the viscus itself; and it was agreed that my patient should pass a few days in Leeds for this purpose.

December 9. He and his mother called to inform me of their arrival, and gave me their address, the former being quite well in all respects, but nevertheless resolved to undergo what had been proposed.

Dec. 10. I waited upon him in his new abode, and having made him empty the bladder, I injected into it by means of a double catheter, a solution of one drachm of the nitrate of silver in four ounces of distilled water. When it had flowed out, I introduced a dilution of one drachm of tincture of opium in four ounces of water in its place, with the object of reducing any slight portion of the caustic injection that might remain, and of allaying undue irritation.

Dec. 11. Kept him to bed, having found all satisfactory.

Dec. 12. The same. No inconvenience from the caustic injection, save a little smarting on micturition.

Dec. 13. The same. I desired him to get up; but this he chose to defer for another day.

Dec. 14. Walked out. Free from all uneasiness.

Dec. 15, 16, 17. No inconvenience whatever. Urine clear; no desire to get up in the night. In perfect health.

Dec. 18. Took his departure, strong and robust; as compared with his condition nine weeks before, like one snatched from death.

From the history of this case here given, I have ventured to draw the following conclusions.

1. That it was one of so-called *gonorrhœa*, directly affecting the entire mucous membrane of the bladder; and therefore different from those comparatively rare complications of that affection with cystitis, that is, simple, or, as sometimes named, sympathetic inflammation of the bladder, arising from the irritation of urethral gonorrhœa, from acrid substances taken into the system for its cure, which act injuriously on the bladder, as cantharides, terebinthinate substances, or balsams; or from irritating injections used too frequently or pushed too far.

2. That the preceding view seems to be borne out by the history, so far as ascertained; by the case having obstinately resisted, and

even become worse, under all means attempted as remedies for cystitis, or whatever else it was supposed to be, during the six weeks preceding the adoption of treatment pursued in accordance with that view; and by the perfect success of such treatment; also by the fact, just alluded to, that cystitis is sometimes produced by the balsams taken into the system for the cure of gonorrhœa; therefore, had this been a case of simple inflammation of the bladder, it would have been aggravated by the copaiba, so freely exhibited as it was; whereas it steadily yielded, like a case of urethral gonorrhœa, to the curative influence of the balsam. Sir Astley Cooper pointed out in his lectures a mucous disease of the bladder, in which there was an enormous quantity of ropy mucus discharged with the urine, and for which he said—"The best remedy, however, is the balsam of copaiba." In the present case, however, the youth and healthy constitution of the patient were unfavourable to the supposition of a mere mucous disease of the bladder, so extensive and so suddenly lighted up, and spontaneously; for Sir A. Cooper does not state it as a consequence of gonorrhœa; while, on the other hand, the view taken is supported by the fact of the previously contracted urethral affection, by the discharge from the bladder having, to all seeming, been contagious, so as twice to *reinfect* the urethral membrane; and by this renewing of the infection having entirely ceased when the disease was controuled in the bladder itself. Again, had it been merely a mucous disease, would not the qualified general practitioner and the experienced physician who preceded me, have been sure to detect and easily cure an ailment so very simple?

3. The *rationale* of the encroachment of gonorrhœa upon the bladder—a circumstance certainly not common; for, so far as I am aware, it is not mentioned by authors, unless we may consider that the case or cases referred to by Sir Astley Cooper had such an origin; and the present forms the only example in my own practice—may be conceived thus: The patient had suffered once (eighteen months) before, from slight inflammation of the bladder, which was easily subdued; and he was again the subject of a similar attack (whatever the true nature and causes of that affection) at the very time when he contracted the urethral gonorrhœa. He had at that time to get up in the night to pass his urine, and had a considerable stinging sensation, particularly towards the root of the penis or neck of the bladder. This, I conceive, constituted the most favourable condition of parts for inducing the progressive advancement of gonorrhœal infection. The contagious muco-purulent or purulent discharge would glide along, invited, as it were, by, and mingling with the heightened secretion of the predisposed surfaces, to or into the neck; from whence in the same manner, as from the smallest portion accidentally placed upon the border of the conjunctival membrane in gonorrhœal conjunctivitis or upon the extreme margin of the urethral membrane, it would extend, slowly yet surely, over the whole.

4. The case tends to show that while the affection, which for want of a better term, I have called vesical gonorrhœa, cannot be cured by the means to be relied on (and, I must believe, put in exercise by my precursors on the occasion in question) in cystitis, or simple inflammation of the bladder, howsoever caused, it is directly amenable to the ordinary

treatment of common gonorrhœa; clearly indicating, not only their identity, but also that, contrary to the opinion of M. Ricord and certain of his ardent followers, there is a specific quality in the characteristic muco-purulent, or purulent discharge of so-called gonorrhœa, which distinguishes it completely from the suppurative effect of simple inflammation.

ON THE NECESSITY FOR A MORE DISTINCTIVE TERM FOR SO-CALLED GONORRHŒA. In committing the foregoing remarks to paper, I have experienced the trammels of an unpleasant awkwardness in using the verbal means available for the proper expression of my meaning. I have felt, as it were, a want of right tools to bring out the distinctive points of my subject. The same thing has repeatedly happened in dealing more at large with that subject in another form; and therefore, as by no means foreign to anything that has gone before, I would here with deference submit a few observations in explanation, and offer one or two propositions for the removal of the difficulties referred to, which, I cannot doubt, have occurred to others as well as to me. I allude to the numerous names and epithets bestowed on the disease egregiously miscalled, but most familiarly known by the term gonorrhœa.

It is a singular truth, that of the many words conventionally employed to designate that species of venereal disease, which may be said to consist in a peculiar inflammatory action which gives origin to, and causes to persist through an indefinite period, an infectious muco-purulent, or purulent discharge from the urethra in men, the vagina, often the neck of the uterus, but much less frequently, the urethra in women,—not one is truly indicative of the affection.

The oldest and most common of these names (leaving out of view for the present the abominable slang epithet *clap*) is *gonorrhœa*, γονή, the semen; *ῥέω*, to flow—a flow of semen; an appellation arising in old times out of a misapprehension of the nature of the complaint, and of course, now that its true nature is ascertained, misapplied in every instance of its employment to denote the disease in question. The inapplicability of this term has long been felt and regretted, and expedients have been adopted to mend the matter by coupling with it several expletives to characterise the virulence (notwithstanding the authoritative denunciations of M. Ricord and some of his English followers, I use this word) of the affection, *gonorrhœa contagiosa*, *gonorrhœa maligna*, *gonorrhœa venerea*, *gonorrhœa virulenta*, *gonorrhœa vitiosa*, etc. Still, the specific name itself remains as ill-adapted to the occasion as ever.

The next in frequency of use is *blennorrhagia*, a term invented by Dr. Swediaur as an improvement on its forerunner, gonorrhœa, and apparently esteemed as such by many, being that adopted by M. Ricord and other continental and British surgeons. “Blennorrhagia,” says Mr. Acton, in his *Practical Treatise on Diseases of the Urinary and Generative Organs*, Second Edition, 1851, “from βλέννα, mucus, and ῥέω to flow, signifies a discharge from mucous membranes (consisting principally of mucus) and depending upon inflammation of those membranes, being to the urethra, vagina, or conjunctiva, what bronchitis is to the bronchi, with this difference only, that blennorrhagia most frequently depends upon, or is contracted in sexual intercourse.”

With due submission, blennorrhagia does *not* mean a *discharge from mucous membranes*, but simply a discharge of mucus, coming from said membranes of course; but the word conveys not the slightest hint of this, and it bears no reference whatever to inflammation, or anything else as the cause on which the discharge depends. Mr. Acton, however, thinks, "the word blennorrhagia presents the fewest objections, although," he politely adds, "it may be cavilled at." If to expose the utter inefficiency of a word authoritatively put forward as an improvement upon, or as proper to supplant another, be to "cavil at" that word, then Mr. Acton has been correct in his expectation; but seeing that all have equal right of judgment with himself on a matter equally concerning him and them, his predication might better have been spared.

Blennorrhagia is quite as objectionable as any of the other names previously in use, — indeed more so, being not only unsuited to express the disease intended, but faulty in itself, as I will now endeavour to show. Blennorrhagia and blennorrhœa, employed indiscriminately by authors, are distinct from each other in their meaning and application. Both indeed signify a *discharge of mucus*, and so are as incorrectly used to designate the infectious disease, as is the old familiar, symbolical—it is nothing more—gonorrhœa itself. The former of the two, however, is an unsound term for any purpose; and if, for sake of their meaning just stated, one of them be thought worthy to be employed on any occasion, the choice ought to fall upon the latter. *Blennorrhœa*, from βλέννα, mucus, and ρέω, to flow, literally means a flow or gradual discharge of mucus, and although quite misused when applied to so-called gonorrhœa, is yet correct in itself in reference to every increased condition of a mucous secretion. But blennorrhagia, which is really from βλέννα, mucus, and ῥήγνυμι, or ῥήγνύω, to burst or break out, must be held to signify a profuse, sudden, and rapid discharge, a gushing or bursting forth of mucus; and therefore, even had it been otherwise unobjectionable, is badly chosen to denote the continual and insensible oozing of matter from the urethra, vagina, etc., which is characteristic of the disease we are considering. As I have said, it is an unsound term, being expressive of such a condition of a mucous secretion as never did, never can exist. The distinction sought to be explained will be more perceptible, perhaps, in comparing the similarly constituted terms hæmorrhagia and hæmorrhœa, the former of which can only be properly applied to a profuse, sudden, or rapid discharge, a gushing or bursting forth of blood from large wounded, divided, or open blood vessels, as in injuries, surgical operations, flooding, etc.; the latter, to any moderate, slow, or gradual oozing of blood, as from a slight wound, prick, scratch, or an abrasion of the skin, etc. Besides these objections to blennorrhagia, neither it, nor blennorrhœa, is one whit more correctly indicative of the infectious discharge under consideration, than gonorrhœa. That discharge is not composed of mucus any more than of semen, but of pus, or muco-pus; for the natural secretion, which is truly mucous, becomes increased and vitiated, or changed into muco-pus, or pus, as the effect of inflammatory action set up by *infection*, the result of impure contact, and then constitutes the infectious purulent discharge hitherto miscalled gonorrhœa, blennorrhœa, etc. Like the symbolical

name gonorrhœa, this, too, has been associated with other adjective terms in aid of its thus confessed deficiency, as *blennorrhagia venerea*, etc., an expedient, however, which answers no better purpose than in the instance of the former.

Of other names and epithets which have been applied to the same disease, only a brief consideration is necessary.

Fluor albus malignus, like those just mentioned, conveys an idea derived from the most prominent symptom of the affection when located in the vagina, and of the virulent nature of the discharge; but is defective, as they are, as to any indication of its contagious nature, or origin.

Simple venereal catarrh, in the same way, though more comprehensive, denotes only an increased mucous secretion from certain of the generative organs, of venereal origin indeed, but not, therefore, necessarily infectious.

Catarrhal primary syphilis was proposed by Mr. Wallace, of Dublin; but it goes to maintain the old misconception by which gonorrhœa and syphilis were held to be modifications of the same disease, and is now, therefore, out of the question.

Urina purulenta is also inappropriate, being merely an appellation either of the accidental appearance in the urine of pus, whether present in the urethra as the result of inflammation (venereal, or non-venereal), and washed out by the first discharge of the urine on emptying the bladder; or coming from the kidneys, or from the bladder itself, as a consequence of inflammation.

Brenning, an old term synonymous with burning, and founded on the symptom called *ardor urinæ*, is of course too meagre to serve to distinguish the affection.

Catarrhal inflammation is altogether too vague and indistinctive, being quite as applicable to the secretion of the Schneiderian, as to that of the urethral or vaginal membrane.

Venereal catarrh is also much too general to be useful for the purpose desired; a discharge or catarrh may be venereal, yet not at all of the character of that hitherto called gonorrhœa.

The Venereal, an indefinite and inapt term, affectedly used by some in a strain of would-be easy elegance, and also fitly adorning the lying puffs of the quack.

Clap, a low vulgar term, derived from *clapises*, an old French word for the abode of single prostitutes, and having no direct reference to the subject.

Chaude pisse, another French term, with which we have properly little to do, derived, like *brenning*, from the marked symptom *ardor urinæ*; its etymology is *chaude*, hot; *pisser*, to pass urine.

Pyorrhœa, πύρον, pus; πέω, to flow; a flow of pus; a name given by a French author, and equally faulty with the rest, from its partial incorrectness as designative of the discharge, as well that it is not special in its meaning with respect to the disease itself, its seat and origin.

Mucite, as used in France (analogous to *mucitis*, to be presently noticed), does not indicate the discharge or disease in question.

The several terms formed of words which express the organs or parts of organs involved in the mischief, and *itis*, a dissyllabic terminal usefully recognised as the symbol of inflammation, viz. *mucitis*, a word

really meaning *inflammation of mucus*, but intended to mean *inflammation of a mucous membrane*, according to M. Ricord (*mucite*) and others; *urethritis*, *clitoriditis*, *vulvitis*, *vaginitis*, *uteritis*, etc., are all useless as to the slightest allusion they bear to the disease known as *gonorrhœa*. To give more point to their application, the word *venerea* has no doubt been tagged to most of them; but *urethritis venerea*, and other combinations of a similar kind, can only imply inflammation of the organ, or part, *venereal*, it is true, but not on that account *infectious*, and so cannot distinctly or intelligibly typify the disease before us, the one marked distinguishing quality of which—I write with perfect deliberation—is *infection*.

The object of the foregoing remarks is not to assume a merit in discovering and rectifying errors, but to fix upon some term as a fit and proper representative (to use political phraseology) in medical literature, of the infectious discharge from the urethra, or vagina, hitherto erroneously called *gonorrhœa*, *blennorrhagia*, etc. The desire for such a term has arisen, as premised, out of necessity. Having, then, exhibited the existing defects in so many examples, and being strongly of opinion that it is conducive to the improvement of medical science, and the elevation of medical intelligence, to call diseases, as well as other things, by right names, I humbly propose the word *baporrhœa*, as a more distinctive title than any now in use, as a simple, and, so far as it is expedient to go, an expressive generic term for this disorder. It is derived from βαπτὸς, infected (βάπτω, to imbue, corrupt, poison, or infect); ῥέω, to flow; its literal meaning being an infected or *infectious flow*, which I hold to be the true character of the mucopurulent or purulent discharge in so-called *gonorrhœa*, or, rather, which constitutes the disease itself. It will supersede the varieties of pathological or anatomical expletives usually thought necessary to be attached to the hitherto received erroneous names.

It may be objected, that this term does not, any more than do the others which it is intended to depose, indicate the locality of the disease. The omission was intentional, because to embody such indication, must profitlessly encumber and mar the simplicity of the term. As it stands, it is complete *per se*, clearly distinguishing this disease as it exists in either sex, by expressing the uniform character of the discharge, in which this disease alone may be said to consist; and that discharge being in its origin peculiar to the urethra, vagina, and certain parts immediately connected with them, it is unnecessary to include a reference to the fact in the generic term. It may easily be made available for all ordinary purposes, by adhibiting certain distinctive adjectives, as urethral, vaginal, uterine, vulval, ophthalmic, or conjunctival *baporrhœa*. Or an adjective may be formed from it, and we may say *baporrhœal urethritis*, *vaginitis*, *uteritis*, *ophthalmitis*, *conjunctivitis*, etc., thus clearly pointing out, beyond the possibility of mistake, the special character and seat of the malady.

But it will be found that in lectures, or in composition illustrative of this disease, it is desirable and most convenient, if not indispensable, to have one or two other and more direct terms, by which to specify its different species or seats, as they occur in the organs of men, or of women. Accordingly, I further propose to employ the term *bapthorrhœa* as the specific term for *baporrhœa* in men, from βαπτὸς;

ὀυρήθρα, the urethra; *ῥέω*,—an *infectious flow from the urethra*. It is longer than baporrhœa by only one syllable, and perhaps at first slightly uneasy of utterance; but it specially characterises this disease in the male urethra, a distinction that is complete, for its presence in the urethræ of women is rare, and, when it does occur, must always have been preceded by, or be coexistent with, the same affection in the vagina. It also supersedes the necessity of having recourse to other expletives, although an adjective formed from it will be useful, as baptrethorrhœal disease, discharge, rheumatism, ophthalmia, etc., at once denoting baporrhœa, its effects, or *sequelæ* in the male.

A corresponding term thus becomes requisite to distinguish baporrhœa in the female. For this purpose, *baptothecorrhœa* is offered; from βαπτὸς; *θήκη*, a sheath, and so the vagina; *ῥέω*. This word aptly expresses the affection in women, an *infectious flow from the vagina*; while, in like manner, an adjective made from it, will significantly distinguish the inflammatory action, or its consequences, in any organ, or part of an organ, which the disease has attacked, as baptothecorrhœal discharge, abscess, conjunctivitis, etc.

To bring these proposed new terms under one view—

1. BAPTORRHŒA, an infectious flow or discharge—in place of *gonorrhœa*, a flow of semen; *blennorrhagia*, a bursting or gushing forth of mucus; *blennorrhœa*, a flow of mucus; or any combination of these and other terms hitherto in use, as a generic term correctly designating the characteristic symptom of the infectious venereal disease, which they, or their combinations, do not at all denote.

2. BAPTRETRORRHŒA, an infectious flow from the urethra; as directly expressive of baporrhœa in men.

3. BAPTOTHECORRHŒA, an infectious flow from the vagina; as at once indicative of baporrhœa in women. From each of these an useful adjective may be formed by the addition of the letter *l*.

Leeds, February 1852.

BIBLIOGRAPHICAL RECORD.

NEURALGIA: ITS VARIOUS FORMS, PATHOLOGY, AND TREATMENT. By C. T. DOWNING, M.D. pp. 375. London: 1851.

NEURALGIC affections are probably much more common in the present day than they were in the times of our ancestors. To what this may be owing can only be matter of speculation; but if it be a fact, it explains the increasing attention which they have of late years received.

Every observant traveller in paths which lead to the relief of human misery is entitled to the thanks of mankind; and if judicious and unwonted efforts deserve a high meed of praise, this is justly due to the author of the Jacksonian Prize Essay for 1850, of which the work now under review is an extension. Practical knowledge and literary ability eminently distinguish this volume.

DR. DOWNING divides Neuralgia into three kinds—the Spasmodic, Rheumatic, and Hysterical—which each comprise a good many species. This position the author proceeds to fortify, by drawing from nature a description of each genus, before descending to the detail of varieties.

Of SPASMODIC NEURALGIA he says:—"the attack is sudden, instantaneous, and usually without warning. A person, apparently in good health, is seized in a moment with a violent pain in some part of the body. The suffering is perhaps moderate at first, and ceases in a few minutes; it then recurs after a brief space, again without warning or apparent cause, and increases in severity and duration. Ultimately, when the disease is fully established, the suffering occurs at intervals, and often amounts to paroxysms of excruciating agony. Then it is that some premonitory symptoms may be noticed before the attack, and an exciting cause may often be evident. But the patient alone is sensible of the approaching fit: nothing can be detected by the medical attendant to indicate it. Possibly, similar sensations are experienced by the patient as are felt by a woman before the uterus renews its action during labour. After an interval of rest, the parts assume a state of great excitability. Slight painless shocks are experienced, and these are succeeded by others of gradually increasing intensity, until the paroxysm is fully established. These premonitory symptoms may have preceded the original attack, but were unnoticed, disregarded."

After describing the extreme excitability of the nerve or nerves affected when the complaint is once established, and the ease with which they may be roused to painful action, Dr. Downing states the character of the pain to be various in different individuals and cases; some figuring it as sharp, piercing, and thrilling; some as plunging or throbbing; and others, as if repeated shocks of electricity were passed through the part, or as if it were subjected to constant thrusts from pins and needles. Intermittence, remittance, and periodicity, are found frequently to attend this form of neuralgia, though the same may be said of any nervous pain, even of that depending upon a permanent source of irritation. The course of the pain is usually from within outwards, but this rule is far from universal; indeed, as regards its tendency to spread and involve other nerves than those already implicated, its course is quite as frequently backwards as forwards. Sometimes, the pain is not seated in, nor does it take the course of any large nerve, but apparently resides in the cutaneous fibrils, and will then radiate from a *foyer* or focus; but in most cases it respects the median line. Very slight, if any, topical disturbance is observable in recent cases, and no change in temperature is discernable in pure neuralgia; but in cases of old standing, a thickening of the tissues of the part affected is sometimes noticed. If the

tongue be involved, the side affected is said to be drier and whiter than the other; and this fact is afterwards brought forward to show that the whiteness of the tongue, in some forms of neuralgia, may not always be indicative of disordered digestion. The general circulation is not affected, though an arterial twig in the course of the suffering nerve may throb violently during the paroxysm, while secreting glands in the same circumstances are stimulated to unwonted action. There seems to be much discrepancy in respect to sensitiveness of neuralgic parts, which are usually exquisitely obnoxious to slight impressions, though they may bear firm pressure with impunity, or even with relief. The general health suffers but little, even after repeated attacks of this formidable disorder. Neuralgia is no doubt frequently associated with derangement of the chylopoietic viscera, but this is by no means always the case, nor when it is so, does it lead in general to structural change; yet the physiognomy of neuralgic patients often betrays a deranged state of health, similar to the aspect of persons who have suffered from malaria. An observation of the usual course and termination of neuralgia is of much interest, and it is consolatory to learn that it does, in many cases, undergo a natural cure. But in others, notwithstanding the employment of every known means of relief, it maintains a hold of its victim until constrained to yield, along with all other vital phenomena, to the more powerful grasp of death.

RHEUMATIC NEURALGIA is to be distinguished from the preceding (according to our author) by its origin in cold, (though this is no great criterion); by the difference of the pain, which he describes as constant, dull, and aching, with aggravation at intervals; and by there being more or less heat of the surface with rheumatism of other parts.

HYSTERICAL NEURALGIA may be determined by the extreme sensibility of the skin in particular localities; by its diffusion over a considerable surface; or by its circumscribed area, as in *clavus hystericus*. In addition to these means of forming a judgment, may be mentioned the sex and apparent diathesis of the patient.

Dr. Downing insists strongly on the practical advantage of attending closely to these distinctions.

The causes which produce neuralgia are divided by him into *predisposing*, *exciting*, and *proximate*. In the first category are placed age, sex, temperament, mode of life, and hereditary disposition. With regard to age, several authors, both at home and abroad, are quoted to prove that though extreme youth and age are not exempt from this formidable complaint, yet there is warranty for concluding that the four periods of ten years each comprised between twenty and sixty are those most obnoxious to its attacks, and that the disorder is pretty equally divided between those periods. As respects sex, Messrs. Chaponniere and Valleix give the following testimony, with which our author is inclined to agree. Out of 267 cases reported by these writers, 124 occurred in males, and 143 in females. Dr. Downing considers there can be little doubt but that those of a nervous, or more particularly nervo-sanguineous temperament are more especially predisposed to neuralgia, though he admits that the opinions of authors vary on the subject. Habits and mode of life are notoriously influential in producing and modifying nervous disorders, and Dr. Downing adds his testimony to that of all observers in favour of this view. On the point of heredity a decided opinion is offered, and backed by a remarkable example, where a mother seems to have transmitted the complaint to her daughter, in whom its development appears actually to have occurred *in utero*. Season is also adverted to as having a potent influence upon neuralgic complaints; and to this list of predisposing causes, may be added all those influences which exercise a debilitating or depressing effect upon the system.

Among the existing causes are classed, disorder of the *primæ viæ*, hepatic and hæmorrhoidal complaints, heat and cold, osseous deposit, diseases of

bone, disease of the brain (upon which, however, little stress is laid), caries of the teeth, and malaria. With reference to the first-mentioned influence in this list, our author observes, that abdominal disturbance is by no means to be regarded always as the exciting cause of the pain in the nerve. Notwithstanding this qualification, Dr. Downing is inclined to give great weight to dyspeptic irritation as an excitant of the nerves, placing it after cold, which he esteems the most frequent cause, and before malaria, to which he attaches much importance; adding at the same time that, in by far the larger proportion of cases, no probable cause can be assigned for the first onset of the malady. This position is illustrated by the following cases from M. Valleix, sixty-seven in number. Of these, forty-six occurred without apparent cause; seventeen arose from cold; one from amenorrhœa; two from a sudden movement of the part; and one from a blow. Dr. Downing considers that in some cases the complaint may be strictly local, as when it arises from a blow, an old cicatrix, or a spicula of bone.

Of the proximate cause of neuralgia, it is here observed:—"We must discard, therefore, as not founded on observation, all those theories which attribute neuralgia to an inflammation, acrid irritation, hypertrophy, or atrophy of the nerves. There is room for regret, that no investigations on this subject have been made with the microscope, as possibly some structural change might be detected, which escapes the unaided eye. But, with our present information, everything tends to demonstrate that this painful malady consists in functional derangement, the organic cause of which eludes us completely."

Dr. McCulloch's parallel between the phenomena of neuralgia and those of an ague fit, receives a very full consideration, and on the whole, says our author, "a very strong case is made out in favour of the doctrine, although this is yet open to some serious objections". Again: "Even by considering that the diathesis in ague and neuralgia is identical, which in some cases is very probable, we arrive no nearer the solution of the chief difficulty as to the nature of the diathesis. The proximate cause of *tic douloureux*, we may therefore conclude, consists in an abnormal irritability of the nervous fibre, a preternatural local exaltation of function, without corresponding excitement of the vascular system. It may be doubted whether there is not something more than this. I am inclined to think that some phenomena are added in consequence of the disturbance. How otherwise can we account for that peculiar constriction or spasm taking the course of the nerve affected? Can the motion of the part in such case be produced through a contractile action or motion of the nerves themselves?" This question, Dr. Downing inclines to answer in the affirmative, supposing that the contractile power may reside in the neurilemma, though it be ordinarily quiescent. This notion he supports by a reference to the feelings of the patient, and to the authority of Sauvages and of Mr. Joseph Swan, concluding by a description of an experiment made by Dr. Redfern of Aberdeen, in which the abdominal nerve of a leech was submitted to microscopic observation, when graceful eel-like undulations were perceived.

The summing-up of this part of the subject is as follows: "Neuralgia, therefore, with these views, would appear to depend essentially on a morbid irritability of particular nerves, or parts of nerves, leading to violent and painful spasm of their fibres. I would by no means be understood to put implicit faith in this doctrine, but submit it with deference to the judgment of my professional brethren."

Every reader at all conversant with the disease, will recognise the accuracy with which the symptoms of neuralgia are described in the foregoing summary; nor will he deny the existence of different forms of the disease, not inaptly described under the names of spasmodic, rheumatic, and hysterical. He will also acknowledge that the author has dealt fairly with the admitted causes of the malady, though perhaps he may regret that we have been favoured by so few speculations upon this part of the subject, to which its mystery,

and the wide range of scientific research to which it may give rise, would seem to invite. If it be admitted that nervous diseases are more general in modern than in remote times, are not the causes of such a change worthy of investigation? A certain difference in the seasons, in the mean temperature of this hemisphere and in its magnetic relations, is known to have occurred. All sorts of instruments for ascertaining the varying conditions of the atmosphere have been in use of late years, and records have been kept, by which their effect on the human frame can even now be authoritatively recognised. In no class of complaints are these influences likely to be more powerful than in affections of the nervous system, as may be surmised from the different nature of our sensations in opposite states of the weather. Again, are the habits of our ancestors without influence upon the constitution of us, their progeny? Is it not probable that the hard drinking which characterised the greater part of the last century, and the commencement of the present, may be answerable in some degree for the greater weakness and nervous irritability of this generation? We know that the sins of the fathers are visited upon their children; and the natural punishment for undue excitement in one generation, would seem to be a corresponding depression or weakness in its successor. Hence, many instances may occur, in which the tendency to tic has been transmitted by the parent, though that parent may never have suffered from it. As regards the cause of that action which produces pain in a nerve, it is impossible to speak with certainty; but there are some considerations relative to this point, which perhaps our author might have put more prominently forward. He states that the first attack of tic may be sudden and immediate, in the midst of apparent good health, and without any cause which can reasonably be conjectured as assignable for it. Now, cause there must be, whether it is apparent or not. If the nerve affected had performed its functions with perfect integrity up to the moment of attack, some powerful influence must then, or formerly, have occurred to produce so striking an anomaly. What are the known immediate causes which might produce such a result, without giving evident sign of their operation? The only admitted means with which we are acquainted, adequate to produce this effect, are an impure or innutrient condition of the blood, pressure, and probably certain electrical conditions of the atmosphere, inappreciable by our senses. It is obvious, that the second and last of these agencies may act without being discoverable, either by the patient or his medical attendant; but it may be argued, that the first is perceptible, at least to a practised eye. That such may not always be the case, we shall illustrate by mentioning the instance of a gentleman, known to ourselves, who has the power of inducing an attack of tic at pleasure, simply by indulging in ale for a week or ten days. No apparent disorder of the stomach, or other chylopoietic viscera, follows this indulgence; though it has certainly been the means of saturating the system with some obnoxious principle, probably by modifying the action of the liver. Before the specific effect of ale upon this gentleman's system had been found out, the case would certainly have been set down as one arising from no known or obvious origin. But, in such cases, why is the mischief so frequently determined to the nerves of the face? This question only receives an imperfect solution, from the consideration stated by our author, that they are exposed and superficial. The nerves of the hand are liable to equal, if not to greater, extremes of temperature, and are not better protected.

We can hardly help thinking that, viewing the whole circumstances of the case, guessing, as we are compelled to do, at the causes in operation, knowing that two of those act upon the general system, and not topically, and that pressure alone is intelligible to us, in the present state of our knowledge, as a direct cause of pain, we must admit circumstances connected with this influence to some weight in a solution of the question, these being dependant upon the fact that the nerves of the body chiefly affected in neuralgic com-

plaints, are so anatomically situated, as to be liable to the influence of pressure, some of them emerging from bony canals, others passing through a notch, or otherwise resting closely in connexion with bone. The onward current of the nervous influence, in such circumstances, must be readily interfered with; and, for the same reason, processes of anormal nutrition may easily be excited. To establish the doctrine of pressure frequently acting as a cause of pain, when the same is not suspected, we are not required to suppose that active inflammation must be present to induce the requisite tumefaction, this state being as readily induced by under as by over action. But we are of opinion, that in first attacks of neuralgia, there is frequently evidence of inflammatory action; and we think it will hardly be denied, that there are few instances of a first onset of neuralgia being benefited in the first instance by tonic remedies, though doubtless there are some for which that treatment is suitable. In after attacks the case is different; the morbid action is more readily induced, doubtless in consequence of the part affected being weakened by the previous suffering.

Our author's explanation of the apparent contraction of the nerve is reasonable, though it is obvious that the duties of a conducting medium like a nerve would be constantly liable to interruption, were its investing sheath endowed with ordinary contractile power. The question has interest, as bearing upon the doctrine of spasm here advanced, which, after all (if proved), can only be considered an effect of the painful action of the nerve, and not a cause; because it is not insisted that the nerve itself contracts, but only its sheath; nor is it stated that the apparent contraction occurs in every case.

The rules for treatment are here laid down in the most careful and methodical manner. The general indications are, first, to remove the predisposing and irritating causes; second, to avoid all possible sources of irritation; and third, to allay the irritability of the nerve affected. The remedies employed are divided into general and local, and examples are given of the action of some of the more popular among them. Sedatives are recommended to be employed in full doses, or even to a saturation of the system. The claims of cannabis Indica are discussed, and its uncertainty made manifest; but an instance is given of its beneficial influence in the person of a baronet of Norfolk, who finds such difficulty in procuring it genuine in this country, that he imports it direct from Calcutta. Local applications are then fully noticed; but none of them merit particular regard from their novelty or power, except an invention of the author's own.

Before describing this method, we would observe, that our own experience of the local application of chloroform does not quite coincide with that of the learned author of this essay. We have generally found that, where the nerves affected could be properly exposed to its influence, much temporary, and in some cases lasting, benefit has arisen. We have found this agent peculiarly serviceable in pleurodynia and neuralgia of the scalp; less so in that of the face, because the deeper portions of the nerves are generally involved.

The invention referred to, embraces as its principle the application of warmth and narcotic influence combined in hot vapour, which is generated in a cylinder for igniting the matter employed (usually the leaves, stalks, and seeds of hypnotic plants); a bellows maintains a current of air through the burning material, and tubes and cones direct and concentrate the stream of vapour. By this arrangement, any degree of heat may be attained, and consequently any intention answered, either that of simply applying a comfortable warmth to the part, or of reddening or even blistering the skin. By this plan, all the physiological action of the drug employed may be obtained; and several cases are related, exemplary of the favourable effect of the combination. Indeed, so successful has this mode of treatment proved in the hands of Dr. Downing, that it should be known to every practitioner

called upon to relieve the agonies of neuralgia. As to the *modus operandi* of remedies, both general and local, our author seems to consider that they act as tonics, stimulants, or sedatives; effects which he refers, on the authority of Todd and Bowman, to a molecular change rapidly propagated along the nerve, from the point of application. For those curious in this subject, we refer them to the author's already mentioned, and more especially to Dr. Snow's paper on the action of narcotic vapours. It appears to us that one important omission occurs in the list of remedies mentioned in this work. *Climate* exercises the most decided influence upon most cases of disorder of the nerves, and is therefore not only entitled to a place among the means employed for their cure, but is perhaps entitled to the first place in that catalogue.

In his classification, Dr. Downing rejects the arrangement of Chaussin, in his *Table Synoptique de la Neuralgie*, and follows one which he adopts for its convenience, beginning with the head and face, and reaching the trunk and extremities in their order. The external parts take precedence of internal; and traumatic neuralgia receives a separate notice. General neuralgia is first treated of, and its cause is stated to be often obscure; but sometimes it can be traced to chylopoietic derangement, but more frequently to malaria; an opinion from which we feel bound to differ, on this ground, that general neuralgia, or flying pains, as they are often termed, is a very common accident at different periods of life, while exposure to marsh miasm is now fortunately the fate of comparatively few. Toxæmia appears to us a much more probable cause of this malady; and with that view, we cordially concur in the treatment here recommended, which is of a depurative and strengthening character.

Tic douloureux, first so called by André, a surgeon of Versailles, is next considered; and anatomical reasons are offered why the face should so often be the seat of pain, to the effect that the interlacement of the fifth and seventh nerves, and their auxiliary branch from the sympathetic, covers the cheek with a net-work of nervous filaments, commanding extensive sympathies, and considerably exposed to external influences. Reference is also had to the fact, that whereas, in other parts of the body, the nervous fibrils of motion and sensation run together in one sheath, from their origin to their termination, here they coalesce only at their peripheral extremities, and the portio dura is stated to be in some degree a mixed nerve. According to this explanation, it follows that four distinct nerves may be involved, forming four varieties of the complaint, viz. supra-orbital, infra-orbital, maxillary, and facial, affecting the portio dura, though all of these nerves are sometimes affected at one and the same time. The first of these varieties is said to be the most periodic in character, and the least rebellious to treatment; the pain of this kind is also stated to be more bearable. The second, or ophthalmic, is accompanied by intense agony, which is sometimes felt in the ball of the eye; and it appears, from one of the cases cited, that the interior of the optic globe may be revealed to the patient!—a fact for the Mesmerists. When the lachrymal gland is affected, there is an abundant flow of tears; and this disagreeable attendant upon the complaint is apt to continue when the latter has been subdued.

The following case we extract, as illustrative of this kind of tic, and also because it corroborates (as do many others in this work) an opinion which we ventured to enunciate above, relative to the treatment in first attacks of neuralgia.

“CASE. On November 30th, 1849, I was called to see Mr. H., a person of sanguine temperament and full habit of body, who was suffering excruciating agony in the face, compared by him to the flesh being torn off with hot and sharp pincers. The pain sprang from the temple, ran down to the cheek and eye, and often invaded the side of the nose and lower jaw, making

them feel benumbed and irritable. The eye itself felt like a burning coal; a dull aching pain was always perceptible in it; but exacerbations of intense suffering came on occasionally, with a flooding of tears. These made him shriek out, throw himself down on the ground, or run about the house distracted. The paroxysms were confined entirely to the day time; they came on at day-break, tormented him till evening, and then ceased completely, so as to allow of some sleep until the morning. The eye was considerably swollen and injected; otherwise no disturbance. Stomach and bowels in order. Tongue clean, and rather white. Patient not had tooth-ache for six years. The pain came on suddenly a week before, without obvious cause. It was doubtless attributable to the influenza, from the debilitating effects of which he was then suffering. Being of such recent origin, it was readily relieved by attention to the general health. A sharp aperient, followed by a little saline medicine, rectified the feverish excitement of the system, and completely allayed the local irritation. The eye looks, however, weak and watery, even at the present time."

The sub-orbital form is considered by Dr. Downing as the most common, though by no means the most severe. The teeth, gums, palate, and salivary glands, are often involved in this species, and inflict most severe torture upon their owner. Maxillary neuralgia is also common, and generally passes outwards from the mental foramen, though sometimes it takes an opposite direction, attacking the teeth of the lower jaw, the side of the tongue, the ear, and cheek. In this case there is scarcely ever perfect intermission of the pain, and the disease is generally considered very chronic and intractable. Instead of going over all the arguments which our author employs to prove the possibility of the portio dura being capable of suffering pain, and of being actually painfully affected, we extract a case of this so-called disorder, and thus afford to our readers an opportunity of judging for themselves.

CASE. "W. A., a porter, aged 42, applied at the Metropolitan Free Hospital, November 1, 1848, for neuralgia, apparently of the portio dura. He is a stout man, of sanguine temperament, but in very indigent circumstances. Patient says he has had occasional slight pain in the right side of the face for six months past. About three weeks ago it came on worse, during the wet weather, to which, from the nature of his occupation, he is much exposed. It is now sharp and piercing. He points, as the source of the agony, to the front of the ear. It shoots from thence upwards to the head, downwards to the neck, and forwards to the mouth and nose. There are intermissions to the suffering, but no regular periodicity. Local measures of a sedative nature were employed.

"*Nov. 7th.* Pain is rapidly vanishing; but, in proportion to its decrease, palsy of the portio dura has come on. The features are now drawn to the opposite side. Patient cannot shut right eye completely, and the globe is turned upwards. He was ordered a blister behind the ear, and purgative medicine. *11th.* Improving; there is less distortion of the features, and more power over the muscles of expression. *18th.* Has almost entirely recovered the use of the muscles of the face. The tic, however, has returned in proportion; is again in full activity. *27th.* Pain has been entirely absent for some days. Some palsy is still evident about the eye, and the skin of the cheek yet feels somewhat benumbed."

From the remarks which succeed this case, we extract the following. "We infer that the frontal, sub-orbital, or maxillary nerves are affected, when the pain radiates from the orifices from which they emerge. For the same reason, we have a right to conclude that the portio dura is diseased, when the agony springs distinctly from the stylo-mastoid foramen and shoots along the well-known course of its branches."

The special causes of facial neuralgia are supposed by Dr. Downing to be, as already stated, the superficial and exposed situation of the nerves affected rendering them liable to the influence of cold, and certain conditions of the

teeth, arising from caries, exostosis, and other causes, though this statement is accompanied by a proper warning not to mistake cause for effect, by which useful teeth may be sacrificed, and the complaint aggravated instead of benefited. Some instances are given, showing that this kind of neuralgia sometimes alternates with paralysis of the lower extremities. The diseases which may possibly be mistaken for tic douloureux, are inflammation of the nerves, disease of the antrum, brow-ague, and rheumatism. As regards brow-ague, the only difference between it and tic, consists in its more perfect periodicity, and in the dull heavy character of the pain, as distinguished from the flashing electric nature of the pain in true tic.

Hemicrania, or migraine, is referred to congestion of the superficial nerves of the scalp, and is relieved by the application of a tight ligature round the head. Cervical neuralgia is ascribed to cold, or other causes affecting the nerves of the first cervical plexus. Intercostal neuralgia, which is stated to affect principally the weaker sex, is divided into hysterical and ordinary. Its dependence upon spinal irritation is very justly questioned by our author, who, while admitting uterine disorder to be an occasional cause for this kind of pain, does not assign to it that degree of importance which to us it seems to merit. Intercostal neuralgia we have found to be a frequent concomitant of pregnancy, and of every permanent source of irritation of the womb, as well as of its occasional derangement of function, and that it should be so is probable from the anatomical connexion between the intercostal and uterine nerves. Caries of the teeth is also mentioned as an occasional cause of thoracic neuralgia. The mode of distinguishing lumbar neuralgia from lumbago is extracted by our author from the work of M. Valleix, already quoted, and is so precise and accurate as to merit a place here. "In the cases of lumbago that I have examined, the pain existed on *both* sides of the spine; it occupied the mass of the sacro-lumbar and long dorsal muscles, and did not extend beyond them. Generally there was some tenderness on pressure over the muscular masses, but this sensitive track was much wider in lumbar neuralgia. The pain was principally excited or augmented by the motion of the trunk backwards and forwards. During rest the pain ceased altogether, or was greatly mitigated; the shocks, much less severe than those in neuralgia, were confined entirely to the lumbar region."

Short mention is made of neuralgia in the upper and lower extremities; and one case is given, in which it was the sequence to an attack of herpes, and proved intractable to every mode of treatment, an occurrence which we have frequently seen examples of in our own experience. Sciatica, which receives a full and very satisfactory notice, is believed by Dr. Downing to be more common in men than in women; an opinion in which he will be found to agree with most practical men. Indeed, the causes which originate this form of neuralgia are such as must chiefly affect the male sex, *e.g.*, exposure to wet and cold. Fishermen, sailors, soldiers, and gardeners, are stated to be peculiarly obnoxious to sciatica; and to this list we would be inclined to add excavators, who appear to us to suffer from the same cause which probably produces the complaint in gardeners, *viz.*, their stooping position while at work. The character of the pain in this, as in other kinds of neuralgia, may vary; the attack, though sudden, is almost always preceded by symptoms which are little regarded, such as pricking and tingling in the limb, chilliness, numbness, and other indications of partial paralysis. It has little tendency to abate of itself, and when it ceases, the limb is left weak, flabby, and wasted; a perfect palsy is by no means an infrequent sequela to the nervous excitement. "The irritation of spasmodic sciatica", says Dr. D., "I am inclined to think, is mainly due to variable pressure upon the nerves in some part of their course. In taking this view of the matter, I am influenced greatly by the anatomical relations of the parts, and by the effect of pressure when applied temporarily. The distension of the bladder, colon,

rectum, or the enlargement of the prostate in old people, must often cause the lumbar and sacral plexuses to be thus irritated. Hence I account for the comparatively greater frequency of the disease in males than in females from the pelvis being less capacious. From this cause neuralgic affections in the lower limbs of females either originate, or are aggravated, during pregnancy and menstruation." If the preceding observations be worthy of consideration, it will be apparent that the remedies found useful in other forms of neuralgia are here very often highly prejudicial. Quinine, iron, or arsenic, are rarely serviceable. Cases of this affection are detailed, where the medicated vapour was employed with much advantage. The anterior crural and plantar nerves become occasionally the seat of neuralgia, which in other cases has been found general over the whole lower extremity. It may be a question how far the nerves of special sense can be affected with neuralgia, though the organs of the senses are often implicated. M. Piorry has lately described a disorder which he calls "*neuralgie iridienne ou ophthalmique*," where the pains commence, as he supposes, in the nerves of the iris. It attacks persons who dwell in dark apartments, those who read or work much, artisans whose business require them to fix their eyes upon minute objects, etc. To demonstrate that the globe of the eye is sometimes almost exclusively affected, the following instance is adduced.

CASE. "*OPTIC NEURALGIA*. Mr. S., retired jeweller, aged 70, consulted me September 30th, 1850. He is a person of the sanguineous temperament and gouty diathesis. More than thirty years ago, he had an attack of facial paralysis of the left side, some little remnant of which remains. About five years afterwards he was suddenly seized with a violent pain of the right eye, which was treated as gout dependent on gastric derangement. This has continued more or less ever since, in spite of all remedies.

"*Present Symptoms*. Intense darting, plunging pain in the globe of the eye, accompanied by violent spasmodic twitching of the eyelid. It comes on in paroxysms at uncertain times, during which tears flow abundantly down the cheeks, and vivid flashes of light appear before the eye, or 'strike the forehead as if with forked lightning'. The slightest movement of the head or the limbs will induce the fits. Even the sudden closing of the eye when the wind catches it will bring them on fearfully. The irritability of the surface about the orbit is extreme, and the conjunctiva is highly injected. The sight is good in the intervals, but is lost during the paroxysms. These symptoms do not seem so much dependent on dyspepsia as on general plethora of the system, and determination of blood to the head. The pulse is full and strong, the face much flushed, and the features occasionally agitated. The father of the patient died of apoplexy. Pills of colocynth with croton were prescribed, and the local application of the vapour of chloroform. This system was not persisted with, though it produced considerable mitigation of the pain."

Toothache and earache are sometimes of a neuralgic character, and the female breast is the seat of the same kind of pain, which, according to Dr. Downing, may be either spasmodic or hysterical. The testis is well known to suffer in an analogous manner, and the joints themselves are not exempt from neuralgia, the pain being referred to the hips, knees, or other joints, sometimes accompanied by puffiness and swelling. This form chiefly occurs in hysterical females.

Dr. Downing recognises the existence of visceral neuralgia, and speaking of angina pectoris, which he places in this category, says, "from my own observation I should judge that it consists of painful irritation of the cardiac nerves, leading to spasms of the muscular fibres of the heart and great vessels." The cause of this dreadful form of neuralgia has been found by M. Piorry to depend on a carious tooth, and by our author upon a disordered stomach. The liver, stomach, bowels, kidneys, womb, and ovaries are all

subject to neuralgic disorders, the two last named sometimes becoming of great importance in practice, from the difficulty of deciding upon the nature of the complaint, and from the formidable symptoms to which they give rise.

The last portion of the subject here treated of is Traumatic Neuralgia, which term our author applies to cases arising either from accidental injury or from a surgical operation. The immediate causes of pain in this form are thus enumerated; 1. Pressure of a foreign body in the substance of the nerve; 2. Entire or partial division of a nerve; 3. Pressure upon a nerve. As regards the *modus operandi* of each, Dr. Downing says of the first, that nature, we may suppose, makes strenuous efforts for the ejection of foreign bodies, and hence the *vis nervosa* is directed more particularly to their vicinity. Of the second he states, with respect to complete division of a nerve, that the neuralgia doubtless arises from an abortive attempt at reparation, as suggested by Todd and Bowman, who observe, that perfect restoration of the action of a nerve does not always take place, owing, most probably, to the fact that the central and peripheral portions of the same fibres do not always meet again. The central portion of a motor fibre might unite with the peripheral segment of a sensitive one, and thus the action of each would be neutralised or disordered. As regards imperfect division, the following passage explains our author's views. "The nerve being partially divided, it heals with the rest of the tissue, and is equally free from pain, but on the occurrence of inflammation, rheumatism, or more particularly of the nervous excitability constituting the neuralgic diathesis, the damaged fibril is specially irritable, on account of its stretched and unyielding position." Of the third cause assigned, "We presume," our author observes, "that it is worthy of remark, that the degree of this compression must be moderate or of short duration in order to give rise to pain. Continued or severe pressure produces temporary or permanent interruption of its function, in fact, paralysis." Applying this reasoning to the neuralgia which sometimes occurs in stumps after amputation, it is remarked that the irritation in a neuralgic stump may, therefore, Dr. Downing believes, arise from a fixed, half-cut, nervous fibril, which is excited by the motion of the limb or the action of the muscles, from a nervous trunk or fibril compressed by the surrounding cicatrix, or against the shaft of the bone when the stump becomes conical, or by the hardening of the lymph in the bulbous extremity (of the nerve), and lastly, through spiculæ of bone running into, or osseous deposit taking place in a nervous branch. It must not, however, be concluded that the seat of irritation is always at the extremity of the severed limb. Traumatic neuralgia, as might be expected from a knowledge of its origin, is very difficult of treatment, general and local means affording but little relief, which is by no means always afforded by operation. That recommended when one nerve alone is supposed to be involved, is removal of a portion of the said nerve; but when several are concerned, no resource is left but amputation. The probability of either of these operations being successful, will depend almost entirely upon the local nature of the exciting cause and the localisation of the neuralgic pain. If a considerable extent of the nervous system is involved, or the origin of the irritation is centric, they will be more than useless. The best plan to adopt in such cases, and from which I have myself witnessed the most beneficial results, is to rectify the general neuralgic diathesis by medicine, and allay the local irritation by soothing applications. This has been effectually accomplished by the warm medicated vapour.

Traumatic neuralgia, in those cases where it supervenes upon operation, is a most cruel disorder, robbing the patient of that benefit to which he might consider himself fairly entitled after submitting to the loss of a limb, and sometimes proving a more intense source of suffering than the disease for the cure of which the operation was undertaken. It does then seem additionally unfortunate that this malady should be so little under the

influence of remedial means, and that with a certain knowledge of its cause generally, medicine and surgery should both be powerless to controul or remove its effects. To wipe away this stain upon the healing art by the prevention of its causes, is fortunately greatly in our own power. Care in the performance of amputations, which ought not to be undertaken against time, as was too much the fashion during Liston's reign, with improved and improving methods of operating, and a better knowledge of the processes of repair, are the best safeguards against the occurrence of traumatic neuralgia. At present, as the complaint has a real and frequent existence, we feel bound to express our gratitude to the author of this essay for the pains he has taken to elucidate its nature and effect its mitigation. In conclusion, we would observe, that the length of this notice precludes a more extended criticism, and so cuts short the pleasing task of analysing extended views and scientific doctrines, by which the reviewer is probably a greater loser than the reader.

LECTURES ON THE PHYSICAL DIAGNOSIS OF DISEASES OF THE CHEST. By HERBERT DAVIES, M.D. 8vo. pp. 288. London: 1851.

The comparative precision which has been at length arrived at in our knowledge of diseases of the lungs and heart, and the perfection of the means by which such information is obtained, are well illustrated by the contents of Dr. DAVIES' Lectures, which condense, methodise, and arrange in a lucid manner, and within a moderate space, all that is understood or suspected upon this truly important subject. Well may we remark, how different is the teaching in these days to the instruction afforded to medical students ten or a dozen years ago. Inductive reasoning has now taken the place of conjecture, and a blind confidence in medical dogmas is no longer the reproach of our profession. Simplicity also follows the acquirement of accurate knowledge; and though the pompous verbosity of inflated ignorance plays its gainful part in the rôle of the impostor, plain sense, conveyed in simple language, is the distinguishing mark of the professor of legitimate medicine.

The subject of Dr. Davies' Lectures has lately been so fully discussed in these pages when reviewing the work of Dr. Walshe, that it is therefore unnecessary to go over the same ground again in a like elaborate manner. For this reason, and not on account of the respective merits of the different works, we feel compelled to compress our remarks on the present volume into a narrow compass.

That nothing may be wanting to the completeness of his book, our author commences by proving statistically the extent and mortality of chest-diseases in this country, as exhibited by the tables of the Registrar-General, from which may be also extracted valuable differential information relative to many points of medical interest, as, for instance, the comparative liability of the sexes to chest complaints, the tendency to the same in both at different and varying periods of life, the effect of occupation, residence, mental influences, etc., which brings us to notice the peculiarities of the chest in the young and the old, the female and the male, with the different capacities for inspiration of separate individuals, and the causes which influence those conditions. As regards the subject of vital capacity, it would seem that the *rationale* of the question is still to be sought for, the point not having received the investigation which its interest demands. The author quotes Dr. Hutchinson, almost the only authority on the subject, who says—"I believe the vital capacity is mathematically commensurate with the mobility or thoracic movement"; but, if this statement were strictly correct, it would be greatest in females and children, which is known not to be the case. The question, indeed, becomes quite a puzzle, when we consider the fact that height has been proved, by the extensive tabulated experiments of Dr.

Hutchinson, to be the principal datum which influences the capacity of an individual for inspiration. These remarks, however, do not by any means impugn the value of the spirometer, whose results are authentic, though the causes upon which they depend may still be matter of controversy.

The rules for physical diagnosis are here given with great precision; spirometry, percussion, inspection, palpation, and the principles upon which each mode of examination depends, are fully described and explained, and, what appears to us of much value in a class-book, the sounds of the chest, both in health and disease, have been considerably abridged in number. This simplification had become quite necessary; the real sounds of respiration, and the rôles which may accompany or obscure them, are of themselves sufficiently numerous, without the endless modern subdivisions invented by conceited or enthusiastic auscultators. What is also of much importance in a work destined to form the opinions of the young, and correct those of maturer years, is the manner in which the philosophy of those sounds is discussed; a reason is given by the author for the faith that is in him, and although it might be too much to assert that this is in every case quite satisfactory, it is certainly not going too far to say, that the various explanations given are not behind the latest stage of progress in scientific discovery. In some instances, when the abnegation of long received opinions, or the elucidation of some point which had escaped former observers seem to require a more elaborate confirmation, Dr. Davies has extended his illustrations. In speaking of bronchophony, for example, regarding which he is inclined to adopt the views of Professor Skoda, of Vienna, he permits him to speak pretty fully for himself, besides drawing freely upon other authorities, whose opinions bear favourably upon his reasoning. As the subject cannot as yet be considered as settled, and is certainly curious and interesting in itself, it may not be amiss to extract a short account of the experiments which Skoda instituted to prove his theory.

He begins by stating—"that the bronchial tubes after death generally contain a quantity of blood, mucus, serum, etc., which interrupts the communication between the deeper tubes or excavations and the larynx, and renders all experiments upon the lung difficult and uncertain in result. The modifications in the character of the voice in normal and diseased lung may, however, be studied in an easier manner. The membrane of the small intestine will very fairly represent the more membranous portion of the bronchial tubes in its capability of reflecting sound, while the liver and heart will correspond to consolidated lung. Take an inflated portion of intestine, and having placed two stethoscopes upon it at some distance from each other, speak through one of them: a person at the other instrument will hear the voice consonating on the intestine. If a piece of liver, lung, or intestine filled with water, be placed between the intestine and the stethoscope, the consonance of the voice will be found to be diminished, and to be very weak or entirely abolished, when the substance interposed is only half an inch in thickness, and merely covers the mouth of the stethoscope. If we dip the inflated intestine under water, and repeat the experiment, taking care to exclude the fluid from the stethoscopes, it will be found that the consonance of the voice in the air contained in the intestine is much louder than when the experiment was made out of the water. If a passage be bored in a liver, without penetrating to the opposite side, and this be spoken into, by means of a tube accurately fitting the opening, the voice will be heard through a stethoscope placed along any part of the whole length of the passage, and for a considerable distance on each side of it, with a strength and intensity much surpassing the voice of the speaker which is heard through the free air. The same can be heard through several inches thick of liver or lung substance, bone or cartilage, with an intensity inversely proportional to the thickness of the interposed stratum. If the liver be dipped under water, taking care that the fluid does not enter the passage which has been bored

in it, the voice may be heard by means of the stethoscope through a stratum of two or more inches of water. The experiment is more easily performed with the heart than the liver. Empty the left side of the organ of its contents, tie up the auricular opening, and having destroyed the aortic valves, speak through a tube introduced through the aorta into the left ventricle. The consonating vibrations of the voice can be heard through a stethoscope placed upon the heart, and also through layers of lung or liver substance, or through a stratum of water.

"These experiments, in my opinion, show how the degrees of the intensity of the voice in the thorax are related to the different conditions of the lung. If the voice in the intestine, when out of the water, consonated so feebly as to be inaudible through a half-inch layer of lung, liver, or water, the consonance of the voice in the membranous bronchial tubes will likewise be so slight as to be almost, if not entirely, inaudible at the parietes of the chest. But, on the contrary, as the voice, in the passage through the liver, and in the ventricle of the heart, consonated so strongly as to be distinguished through several inches thick of interposed substance, so will the voice in the bronchial tube of a hepatised portion of lung, or within the excavations of a tubercularly infiltrated lung, consonate so powerfully, as to appear louder in the thorax than that which issues from the mouth into the free air."

The author's views as to the origin of egophony also deserve attention; although he has not been the first to question the dependence of this phenomenon upon the presence of fluid between the lung and the walls of the chest. It seems certain that, for the production of egophony, some consolidation of the lung is necessary; but how far the author may be correct in his conjecture, that some cause operating within the bronchial tubes (as a pellet of tough mucus) is also required, we are not prepared to say.

Râles or rhonchi are separated into two divisions, the dry and the moist. Their explanation does not differ from that given by other approved authorities, except in the case of cavernous and amphoric resonance, when consonance is again referred to as the efficient cause; the arguments being simply an extension of those employed to explain the origin of broncophony.

This portion of the work terminates with an explanation of the THEORY OF THE STETHOSCOPE, from which is inferred—

1. That its conducting power principally depends upon the column of air confined in its interior.

2. That the central column of air is not chiefly set into vibration by the portion of the chest wall included under the hollowed end of the instrument.

3. That the inclosed column of air can only owe its vibrations to those which are communicated to it from the solid parts surrounding it, which in turn have received them from those within the chest.

THE HEART. A consideration of healthy and diseased conditions occupies the second half of the book, in which the same caution in deduction, and industry in accumulating evidence, as characterise the first portion, are apparent. The source of that power which maintains the heart's action, concerning which so many theories have been broached in our days, is explained by our author by Remak's discovery of nervous ganglia within its substance; a doctrine now very generally admitted, and more likely to advance than to go back in public favour. In truth, the idea which assigned an inherent power of motion to muscular fibre, and which seemed the only theory capable of compensating for a defective anatomy, is likely to be still further shorn of its applicability, as the microscope is brought more generally to the aid of the knife. Another *questio vexata* receives a species of quietus from a champion of our author's already mentioned, the ingenious Skoda of Vienna, who, declining the ordinary explanation of the heart's impulse, ascribes it principally to a power which heretofore has not been considered, which must be admitted to exist, and which is certainly capable of account-

ing in a great measure for the force and direction of the apical stroke. The force indicated is that of the blood itself, acting within a vessel (the heart) which offers an uniform resistance to the pressure of the fluid within it, at all points, or rather in all directions, save one, that being the outlets of the right and left ventricle. The consequence of this arrangement being effected suddenly must be, that motion is impressed upon the organ in that direction where the pressure is not *counterbalanced*. The theory of this action is illustrated in the construction of the rocket, and of Barker's mill, both of which owe their power to pressure whose opposite counterpoise is withdrawn.

Another important point, which late investigations have left no longer doubtful, is the active power of the heart's diastole, a knowledge of which has led to a more satisfactory explanation of some of the abnormal sounds of the organ, than those which were received upon the authority of the first investigators. The ordinary rhythmic sounds of the heart occupy, according to the author, about one half of the whole heart, that is to say, the first and second sound together may be estimated at 99, while the periods of silence are to be reckoned at 100. The origin of these sounds, as is well known, has exercised the sharpness both of the wits and the temper of some of our most enthusiastic physiologists; and the leading combatants have stuck to their peculiar views with a tenacity which argues complete conviction. In this *embarras des richesses* of weighty opinion, our author, modestly declining the position of arbitrator, again brings to the rescue his friend Skoda, whose views, though not perhaps altogether palatable to any of the conflicting authorities, cannot after all be offensive to them individually, seeing that he includes the theory of each in his own proposition. We own to having long held the opinion now pronounced *ex cathedra* by the learned professor, which seems to us to contain the common sense of the question. Why, pray, should the advocates for valvular tension claim for their cause the sole and undivided honour of producing the first sound, when it is admitted on all hands that certain others are in operation at the same moment, which are capable of producing sound, such as muscular bruit, impulse of the apex against the ribs, of the blood against the valves and walls of the heart, its molecular friction, etc.? It appears to us to admit of no manner of doubt, that each of these sounds contributes, in a greater or less degree, to the formation of that concerning the origin of which there still exists such difference of opinion. The phenomenon of want of synchronism of the two sides of the heart, is illustrated by an observation of Volkmann: "When we open the chest of an animal which has been recently killed, the movements of the heart, which are at first regular, are soon seen to lose all order of succession. The auricles pulsate more frequently than the ventricles, contracting five, ten, or even a hundred times, in the period of one ventricular contraction. At a still later period, the synchronism of the left and right sides of the heart disappears. The one pulsates more frequently than the other; or the one pulsates, while the other has lost all capability of independent motion."

The difficulty of sometimes distinguishing between pericardial and endocardial murmur is well put; and some good rules are given for a differential diagnosis.

ANÆMIC MURMUR is a subject concerning which Dr. Davies has furnished some valuable information, the result of his own investigations. The facts, he thinks, warrant the following conclusions:

1. That the venous murmur does not necessarily depend upon any abnormal condition of the blood, nor upon any deviation from the health of the individual in whom it may be found; for we have observed it to be almost universal in children, to be present in a large proportion of persons under twenty-five years, and to exist occasionally in the aged—all in the most perfect health.

2. That the venous murmur is not the result of pressure, although some

portion of the sound may be fairly attributed to that cause. The existence of a sternal venous murmur, at a spot upon which no pressure can be exerted by the stethoscope, is a sufficient proof that sound can originate in the *venæ innominatæ*, independent of any compressing cause; and if in these veins, why not in the jugular also?

3. There can be no doubt that the rapidity of the blood in the large veins is usually sufficient to establish a friction, capable of causing a sound which is more or less audible, according to the readiness with which the parietes of the veins take up the vibrations, and the facility with which the latter are conducted to the outer surface of the body. The three elements in the production of the murmur in healthy individuals are, therefore, 1. A certain velocity of circulation. 2. An elastic condition of the parietes of the vein. 3. A good conducting medium between the vein and the surface. As regards the arterial murmur in pregnancy, we have ourselves observed it, and are inclined to refer it to a common origin with that heard in acute rheumatism, the conditions of the blood in the two cases being alike as to constitution and velocity of circulation.

A SYSTEM OF OPERATIVE SURGERY, BASED UPON THE PRACTICE OF SURGEONS IN THE UNITED STATES: and comprising a Bibliographical Index, and Historical Record of many of their Operations for a Period of Two Hundred Years. By HENRY H. SMITH, M.D., Surgeon to the St. Joseph's Hospital, etc.

The history of the rise and progress of medicine or surgery in a country, we seldom have an opportunity of considering in our capacity of reviewers. Many advantages may, however, be derived from a consideration of the developement of the medical sciences in different parts of the world. Especially may we thus be enabled to trace the causes which have led to the division of medicine into its different branches, and to consider the advantages and the evils attending such a subdivision of labour.

"The history of surgery in the United States is so closely identified with that of medicine, as to render it impossible to separate them; nor is it advantageous to do so, the existence of surgery as a separate branch," in Dr. Smith's opinion, "being only produced by violence, both having naturally a common trunk."

"In the United States, any attempt to separate the practice of one from that of the other is altogether futile, the most distinguished surgeons having been, and yet being, in many instances, the most accomplished physicians in their respective localities."

In our own country, it cannot be denied, that medicine and surgery have too often been regarded as separate branches of study, and that students have too often devoted themselves to the more visible and mechanical parts of their profession, and have neglected the sustained mental training required to trace the more secret and occult processes of disease. It is still in the remembrance of some medical men in London, that at one time so much was the study of medicine neglected by the students, that a physician at the principal hospital at the west-end of London found it necessary to put up a notice requesting the students' attendance, and promising that if they would visit the wards with him, he would afterwards give them a lecture upon the different cases. So novel a proceeding could not pass unnoticed, and the surgeons of the hospital modestly requested that the notices might be taken down, which was accordingly done!

Many very interesting pieces of information are contained in Dr. Smith's work. We learn that in 1635, Dr. John Vatcher came over from England, and published the first American medical work. In 1637, Dr. John Fisk arrived and settled at Salem as a clergyman and a physician. In 1721, Dr. Benjamin Coleman, a clergyman of Boston, published a pamphlet on

inoculation, and in the same year Dr. Cotton Mather introduced inoculation in Boston. In 1750, Dr. John Bard and Peter Middleton injected and dissected the body of a criminal for the instruction of the students, being the first dissection recorded in the United States. In 1763, Dr. John Morgan first taught that pus was a secretion; Dr. Joseph Warren, surgeon and general, fell at the battle of Bunker Hill, 1775; and five years afterwards, Dr. John Warren commenced the first course of anatomy delivered in Boston. We pass over many very interesting details of the *History of Surgery*, to notice that "the inhalation of ether for the purpose of destroying the sensibility to pain in surgical operations", was discovered by Dr. Morton of Boston, in 1846, and was brought into use by Dr. John C. Warren.

The BIBLIOGRAPHICAL INDEX of American writers contains a notice of many valuable works; but they are too numerous for us to notice.

We therefore pass on to consider the GENERAL DUTIES of the surgeon in connexion with operations. We cannot but regard this as a most useful part of the work before us, and the more so as it is a department which, it is to be feared, has been much neglected in our own country.

"A successful surgeon should not only be a judicious practitioner of medicine, but also a devoted nurse, and a careful observer of the varying conditions of the system under all circumstances. In every operation, he should feel that he is largely indebted to nature; without her aid he can neither anticipate nor obtain success, whilst with it, especially as exhibited in the processes of adhesion and reproduction of tissue, he possesses a power which seems almost divine."

Among the duties of a surgeon before operating, the use of ANÆSTHETICS occupies a prominent place.

"In my hands", says Dr. Smith, "pure ether has been widely administered during the last four years; but for some months past I have resorted to it mixed with chloroform, in the proportion of one part of the latter to five of the ether, and I have yet to see the first patient in whom evil has undoubtedly resulted from its use." We are sincerely thankful to trace so good an account of the success of anæsthetic agents in Dr. Smith's practice, but we must demur to his assertion that "almost any article will answer for the application of the vapour to the mouth of the patient, such as a hollow sponge, towel, or handkerchief." (p. 23.) It has occurred to us to witness the most alarming symptoms from the inhalation of chloroform from a handkerchief, and we believe that in a very great proportion of the cases in which serious symptoms have issued, the ether or chloroform has been given in a careless manner. In the case to which we have referred, the countenance became livid, the respiration ceased, and froth issued from the mouth. The alarming symptoms came on quite suddenly; and depended, probably, upon exclusion of the atmospheric air, by want of due attention on the part of the administrator. The use of a proper apparatus is certainly a safeguard against the occurrence of dangerous accidents of this description.

In the AFTER-TREATMENT OF OPERATIONS, there are some valuable observations in Dr. Smith's work, with which we cordially coincide. Nourishing diet after depression caused by an operation, not only proves useful, but sometimes absolutely necessary. "In many cases," observes Dr. Smith, "I have known patients to become feverish, irritable, and have a furred tongue, whilst on low diet, or purged, who were promptly relieved by quinine, porter, and beefsteak; but much judgment is requisite in this part of a surgeon's duty. A full diet will not answer as an universal rule; but, with attention to the state of the system before the operation, to the wasting effects of the disease or of the wound, and especially to the purely local disorder caused by a certain class of operations, good diet will prove most useful, and the continuance of nutritious food after an operation, will be more serviceable than the routine practice of depletion before, and low diet for three or five days subsequently." (p. 30.)

There are surgeons, indeed, of the old school, who still maintain the propriety of an opposite mode of treatment to that which is here advocated, and who attribute the evils which result occasionally from operations, such as secondary inflammations, and deposits of matter in internal parts, to the patient's having been allowed a too generous diet. They state that formerly, when the patients were almost universally put upon low diet, these affections of internal organs after operations did not occur. Two explanations, however, here present themselves. These affections may not have occurred, or they may not have been observed: and, from all the information which we have been able to collect upon the point, we incline to the latter opinion.

Some very useful and judicious observations are made by Dr. Smith upon the preparation and preservation of instruments. These we would warmly recommend to the careful consideration of every practitioner likely to be engaged in operative surgery.

The following simple but useful rules should be constantly borne in mind by the student of surgery, in dissections performed either upon the dead or the living: for the habit acquired in the former, will unconsciously be adopted with regard to the latter. 1. Stretch the part to be divided, and render it perfectly tense. 2. Incise it by a long steady sweep of the scalpel, with a motion similar to that made in forming large letters with a pen. 3. Remove the blade of the knife as seldom as possible from the line of incision; so as to avoid all scratching, digging, piercing, jerking, or notching the tissues. 4. Obtain, in case of tumours, a good hold upon them before commencing their dissection.

DRESSINGS, THE METHOD OF CLOSING THE PARTS AFTER OPERATIONS, AND THE MEANS EMPLOYED TO FAVOUR UNION. The author remarks:—

“In this portion of a surgeon's duty, even good operators occasionally appear to be deficient, and shew a degree of carelessness, that is apparently due to the belief that the great object of the operation ceases when they lay aside their instruments. The education, also, of many of our students is very defective upon this point; it being no uncommon event to see a class leave the operating room, before the dressing is commenced, with as much indifference as they would show, if this stage of the operation really had no value.”

In speaking of the means employed to favour union, we are disappointed in not finding the process of “union by the first intention” distinguished from that of “adhesion”; a confusion of terms has arisen upon this subject in the works of many of the most able surgeons, both in Europe and America. This depends upon the different processes involved in the healing of wounds, which were so well described and illustrated by Hunter, not having been observed with sufficient accuracy by his successors.

Hunter, to whom is due the credit of having based scientific surgery upon physiological observation, clearly described and distinguished the process in which the blood, effused between the edges of a wound, is made the bond of union, from that in which lymph, secreted from the vessels as a result of inflammation, unites adjacent parts. It appears necessary to remind surgical writers of the present day, that the two processes are essentially different in their characters, although similar results are often obtained by both. These two actions the sagacious and penetrating mind of Hunter traced through their different developments; and the clear transcript of nature's operations which he has left us, should be carefully studied by every scientific surgeon. The great idea which Hunter strove to develop was, that every part of a living being was endowed with life, which might continue for a certain time independent of the rest of the body. This principle is clearly seen in the division of some of the lower animals into different parts, when each part,

under favourable circumstances, may sometimes live independently of the rest. Hunter evidently saw manifestations of the same law in the higher animals, and has left us clear illustrations of his ideas in his preparations, which show that a part of the body which has been completely separated, may nevertheless unite again with the same, or with a different living animal. Much more may parts which have been divided from each other (but which still remain connected with the living body) reunite; and this may be done in two ways. The uniting medium may be the blood which has escaped from the vessels at the time of the wound, and which at first mechanically glues the parts together; or it may be a secretion from the surrounding vessels, the result of inflammation. In the one case, the process was denominated by Hunter "union by first intention"; in the other, "adhesive inflammation". "Union by first intention", is no more than the living parts when separated, whether naturally or artificially, forming a reciprocal attraction of cohesion with the intermediate coagulum, which immediately admits of mutual intercourse, and, as it were, one interest. When the blood has coagulated, so as to adhere to both surfaces, it may be said that union has begun. The uniting medium becomes immediately part of ourselves, and the parts not being offended at it, no irritation is produced.¹

We have thought it necessary thus to dwell upon the subject of union without inflammation, as it certainly has not been sufficiently distinguished from adhesive inflammation in the writings of modern surgeons.

OPERATIONS ON THE HEAD AND FACE. The proportion of recovery after trephining the cranium is stated to be about two-thirds of the whole number operated on. The statistics collected upon this subject, we suspect, cannot be relied upon; for it must happen that, when prompted by the stimulus of success, authors put favourable cases upon record in greater numbers than under other circumstances. With regard to the operation of trephining, we are satisfied that nothing like the proportion here stated recover in London hospital practice. We believe that there are many surgeons in London, who have attended assiduously to their profession, and some even who hold hospital appointments, who have never witnessed a successful case of compound fracture of the skull which was trephined. We do not imagine that in other large towns the success of this operation has been greater; and we must, therefore, conclude that the published records do not afford a fair criterion from which we may judge of the success of these cases.

Our limits prevent us from noticing particularly all of the chapters of Dr. Smith's work. We may say, however, generally, that he has given a clearly-written account of the different regions of which he treats, and also of the most common operations required for their diseases.

We have several times been struck with such sentences as the following: "*This operation was attributed in Europe to —; but, in the United States, it is well known to have been performed some years before by —.*"

Knowing the national peculiarities of our transatlantic brethren, we would willingly allow them to enjoy the easily-earned reputation which they are apt to claim. There are cases, however, where a thing may be said to have been previously known and practised, so as to prevent inquiry into its real nature, and thus to impede the progress of surgery. In such cases, it becomes a duty to set our friends right, however much we should otherwise wish to indulge their favourite notions.

In order to illustrate these remarks, we will take a glance at the chapter on STAPHYLOLOGY in Dr. Smith's work.

In connexion with this operation, it is there stated, that Dr. J. Mason

¹ HUNTER on the Blood.

Warren published an account of the division of both pillars of the palate in 1843; whereas Mr. Fergusson's paper did not appear until 1844.

"As Mr. Fergusson entered minutely into the anatomy of the structure concerned, and also demonstrated the importance of dividing these muscles (the *levator palati* and *palato-pharyngeus*), he has doubtless aided the progress of the operation; but it is apparent, from the references just made, that the idea was not a novel one, having been put in execution two years previously by Dr. Warren." (p. 206.)

Now, from anything that appears in Dr. Smith's work, neither he nor Dr. Warren are really acquainted with Mr. Fergusson's operation; nor, from the description there given, should we believe that they had ever witnessed it. The nature of the operation performed by Dr. Warren, is described in an account of plastic operations published in Philadelphia, in 1843, by Dr. Mütter.

"I have succeeded," he observes, "in two cases, where the cleft extended into the hard palate to within an inch of the incisor teeth, by resorting to the staphyloplastic operation performed by Dr. J. M. Warren, of Boston. It consists in first detaching the mucous membrane from the bone, by means of a small bistoury, curved on its flat side; and we must recollect to detach it as freely as possible. This step accomplished, we next seize the flap on one side with a pair of forceps, stretch it forcibly, and then with a pair of curved scissors, detach its base from all connexion with the tonsil and posterior half of the arch. The *anterior half-arch* being thus cut through, its flap expands, as it were, and is readily brought into a proper position. After completing the separation on one side, the same operation must be performed on the other. The edges of the flaps are next made raw, and the ligatures passed as in the ordinary operation for staphyloraphy." (p. 25.)

Dr. Warren relates his own operation in the following words:

"With a long double-edged knife, curved on its flat side, I carefully dissected up the membrane covering the hard palate, pursuing the dissection quite back to the root of the alveolar processes. By this process, which was not effected without considerable difficulty, the membrane seemed gradually to unfold itself, and could be easily drawn across the very wide fissure. A narrow slit was now removed from the edges of the soft palate . . . and a continuous flap was obtained. If the fissure is very wide, I have found the following course to be invariably (?) followed by success. The soft parts being forcibly stretched, a pair of long, powerful, French scissors, curved on the flat, are carried behind the *anterior pillars* of the palate; its attachments to the tonsil and to the posterior pillar are now to be carefully cut away, on which the anterior parts will at once be found to expand, and an ample flat provided for all desirable purposes."

Now, we may be allowed to state, for the sake of our American readers, that Mr. Fergusson's operation does not consist in dissecting the soft parts from the bone; nor in dividing the arches, or between the arches of the palate; nor in making incisions through its lateral portions. The point in which Mr. Fergusson's operation differs from all those previously performed, consists in the division of the *levator palati* without cutting through the soft palate.

"With a knife whose blade is somewhat like the point of a lancet," observes Professor Fergusson, "the cutting edge being about a quarter of an inch in extent, and the flat surface being bent semicircularly, I make an incision about half an inch in length, on each side of the posterior nares, a little above and parallel with the palatine flaps, and across a line brought downwards from the lower opening of the Eustachian tube, by which I divide the *levator palati* muscle on each side, just above its attachment to the palate. Next, I pare the edges of the fissure with a straight, blunt-pointed bistoury, removing little more than the mucous membrane; then, with a pair of long, blunt-pointed curved scissors, I divide the *posterior pillar* of

the fauces, immediately behind the tonsil, and, if it seems necessary, cut across the anterior pillar too. . . . The first incision, it will be remarked, differs from all others hitherto proposed, and is founded on a consideration of the anatomy of the parts. The levator palati, I have no doubt, is the main obstacle to the approximation of the margins, and is the principal cause of unsteadiness in the velum during the operation, and after it has been accomplished."

"The relaxation of the flaps will be the criterion of the muscles being divided. Judging from the anatomy, and what I have seen in the living body, I should say that it will seldom be necessary to meddle with the anterior pillars."

When the *levator palati* has thus been divided, it will be evident to every one who considers the relation of the different parts, that the *velum palati* will fall forward and downward, and that the parts losing their naturally arched form, may be easily stretched across the back of the mouth. The action of the *circumflexus palati* might be supposed still to exercise a lateral traction upon the flaps of the palate, but this is found to be very slight. The little influence that might be exercised in this way, (and it is found, both in the living and dead subject, to be so little as scarcely to deserve attention), is much more than compensated for by the altered position of the parts. We shall hope, in a future edition of Dr. Smith's work, to see this operation properly described, and its author duly acknowledged.

"Palmarum qui meruit ferat."

FAMILIAR LETTERS ON THE PHYSICS OF THE EARTH. By H. BUFF, Professor of Physics in the University of Giessen. Edited by A. W. HOFMANN, Ph.D., F.R.S. pp. 273. London: 1851.

We are obliged to DR. HOFMANN for clothing these Letters in an English dress; although had he, instead of simply translating, as we presume, for we have not seen the originals, really *edited* them, and so arranged and adapted them to the readers he addresses, the "British public", we think they would have become more popular and prized amongst us. Still we are fain to offer to the translator our meed of praise and of thanks, for rendering this little work accessible to the English student. We have spent a few delightful hours in reading this book; and nowhere have we met with the dread and stupendous phenomena, and the slight and silent, yet all-pervading and all-important influences "that this huge state presenteth", drawn with greater force and fidelity, couched in language more lucid and concise, and rendering the ideas sought to be conveyed to the reader, easier of grasp and apprehension, than in these Letters of the learned Professor of Physics at Giessen. He has here proved himself, not simply a master of the deeply interesting subjects of his discourse, but also the possessor of a gift quite as rare, and in a teacher quite as important—that of conveying to his disciples the causes and explanations of the wondrous works of which he treats, in a style and method which must infix them in their memories, being stripped of all the technical terms, or accompanied with clear explanations of such terms, when their employment is unavoidable. These Letters fully bear out the translator's prefatorial remark, that "they are addressed to a person not supposed to have any greater amount of scientific knowledge than is possessed by every man of education: in language intelligible to such a reader, he endeavours to explain the great phenomena of nature."

The voices of some of our leading scientific men "have cried in our streets" for years, respecting the alleged decline of science in England; and within even the few last months this cry has become more audible, and certainly more regarded. Perhaps it is not premature to add, that we see signs, and already detect the first efforts of some ardent, youthful, and earnest workers

in the cause of pure science, which cheer us, and lead us to hope that the race is not extinct, and that our Herschels, our Faradays, and our Owens, when their places are made vacant by "the inexorable law", may be succeeded by men, sons of our soil, emulous of their fame, and resolved and capable of maintaining their country's standing in the ranks of science. We, however, all know and acknowledge the importance of an early bias in determining the current and complexion of a lad's future life and pursuits, and we deem that one of the best means of preventing the decline of science in this country, would be the wide dissemination of such books as the present among the upper forms in schools, among undergraduates at the universities, and, we were going to add, medical students; but aware, as we are, of the amount of attention and hard work incumbent upon this last class, when once entered on their course in the schools, we would rather recommend this book to their careful perusal and study either anterior, or subsequent to their passage through their professional course. We feel certain, that a stronger provocation to eager and imaginative minds, thirsting for knowledge, and susceptible of durable impressions from the contemplation of the vast, majestic, and orderly system of nature, cannot be better, or so wisely administered, than in books similar to this *Physics of the Earth*, of which class it is so admirable an example.

By our recommendation of it to young men, we should, however, do injustice, not only to the book, but far greater to the fathers of these youths, were it to be imagined from what we have just said, that these Letters are too superficial to deserve the attention of well-educated men; so far from this being the case, we are certain that no gentleman of education will peruse this unpretending little volume, without a feeling of gratification at having had truths and facts, already perhaps known to him, so prettily grouped and discoursed upon, and will recognise in the author a skilled and excellent labourer in the joint cause of science and education. To our professional brethren, to whom a moderate acquaintance with the subjects of which it treats is a necessity, we recommend this book, from a feeling that they will warmly enjoy and appreciate the pleasure of its perusal; and, as a foretaste of this enjoyment, at the hazard of committing something like injustice, both to the author and the future reader of the entire book, we extract the larger portion of Letter V, on "Hot Springs and Jets of Steam", descriptive of those met with in the volcanic districts of Iceland, and their accompanying phenomena. This account is condensed by Professor BUFF from the admirable and profound memoir by R. BUNSEN of Marburg, on *The Pseudo-Volcanic Phenomena of Iceland*, (which memoir has since been translated *in extenso* and published in the works of the Cavendish Society, on which series of publications we must bestow a passing word of admiration), and from the subsequent letters of the Marburg Professor to the late illustrious Berzelius on this subject.

"HOT SPRINGS are found at many spots in the neighbourhood of the volcanic rocks of Iceland, often crowded together in great numbers. Here are seen oval basins and great tanks, as it were, made of siliceous tufa, from which the hot water is quietly flowing; there you find round shafts, of wonderful regularity, from which it is spouting up. Sometimes it shoots up in slender streams from little crater cones, and is dispersed in foam and vapour. In many of the shafts the sound of the boiling may be distinctly heard in the depths below, without any water coming up; from many of them only a jet of steam gushes forth, often with a mighty roar.

"The hot springs of Iceland are remarkable for the quantity of silica they contain, and which they owe to palagonite, a rock very abundant in this island, but occurring only in a few other places, being a somewhat soluble compound of silica with alumina and alkali. This dissolved silica is the source of the white flint-sinter, which, being deposited by the water about the spring's mouth, gradually raises the ground all round it, hardening it

even where it had been formerly a swamp; and so quickly does it spread in some places, that plants still green are found embedded in the flinty mass. Bunsen remarked, that by cooling the water no trace of silica was separated from it. Only by evaporating it in a dish some of it was obtained as a fine crust, and that only about the moistened edge of the vessel, where the liquid that had covered it had entirely evaporated, and the liquid itself did not become clouded with the hydrate of silica, till it was very considerably concentrated by evaporation. To this behaviour of the water, Bunsen in part attributes the great variety in the appearance of the hot springs of Iceland. Conceive, says he, a simple petrifying spring which pours out the water from its basin over a smooth, sloping surface of ground; it is clear that the reservoir itself, in which the ever replenished water offers but a very small surface for evaporation, must remain free from siliceous deposits, while its rim, which is just above the level of the water, and over which the moisture is always oozing, quickly and easily dries up, and becomes coated with a crust of flinty matter. A little farther off, where the water spreads itself over the ground around the spring, this crust increases in thickness as the evaporating surface increases. By this means the ground is gradually raised on one side of the basin, and so opposes an obstacle to the escape of the water in that direction; the overflow is thus transferred to another side which may be a little lower, where the sinter-laying process begins again and goes on, until the change in the level of the bottom causes another change in the place of discharge. Since the basin from which the spring runs receives within itself no share of this incrustation, it keeps gradually growing upwards, while a hillock of flint-sinter is built up around it till it becomes a deep tube. This tube having a comparatively small bore, and being filled with a column of water strongly heated below, and not escaping too slowly, joins in itself all the conditions of a constantly flowing spring, as is observed in many places in Iceland. If now the rising mass of water, ever renewed from below, is heated, in the depth of its self-built shaft, to above 100° C. (212° F.), it must, as it mounts, suffer a continual lowering of its temperature, always corresponding to the diminished pressure (according to the table, p. 63), and at last at the surface cannot be hotter than 100° C. The whole excess of heat above 100° C. must of necessity be employed in generating steam. The water therefore displaced and carried up by the steam given off at the same time at all points, and mingled with it into white foam, gushes up in a constant stream, roaring and hissing from the well's mouth. This is exactly what may be observed on suddenly opening a valve at the top of a steam-boiler almost filled with water heated far above the boiling-point.

"The formation, however, of flint-sinter goes on around these springs unceasingly from year to year. The spring-shaft continues to grow and the ground about it to rise; and the flow of the spring must at last cease, when, perhaps after the lapse of centuries, the ever-increasing weight of the water-column has compelled the liquid to find another escape, or the supply from below may have been diminished, so that, in consequence of the cooler water from above continually sinking down, no part of the column of water can any longer reach the boiling-point. Thus great water basins are formed, moulded in solid tufa, and filled with water which is as clear as crystal, and of a splendid greenish-blue, and which either is quite still or runs off very slowly. There are several of these basins near the Great Geyser, and at many other places in Iceland; and in their depths may still be seen the mouths of the ancient spring-shafts.

"The grand intermitting springs of Iceland, the Great Geyser and the Strokkur, have the highest claim on the attention of the observer. The only essential difference, according to Bunsen's account, between these and those that I have just been describing, are the great circumference and propor-

tionally small discharge of the latter. The cylindrical tube of the Geyser, built up by the gradual deposition of the flint-sinter, is 64 feet deep, by 9·8 feet across. It widens out at the top into a flat saucer-shaped basin of at least 50 feet diameter. Immediately after one of the discharges of the Geyser, Bunsen found this basin empty, and the water standing four or five feet below the mouth of the tube. It required several hours for the basin to become filled again; and the water then began to flow quietly over its edge in a little cascade, while the liquid column was heated more and more by the steam or water coming up from below. But the water was considerably cooled at the surface, by reason of the great width of the basin, and the slowness of the overflow. Being thus made heavier, it returned partially into the tube, and made the temperature, to a certain depth within, fall below the boiling-point. On this simple circumstance depends the long period of rest that follows each outbreak of the Geyser. The effect of these two opposite agencies,—the heating from below and the cooling from above,—may be clearly seen from the following observations of temperature taken at different depths of the water-column during the interval between two following discharges of the Geyser.

Depth below the surface in feet.	Degrees marked by the Thermometer at					
	8½ A.M.		3 P.M.		8 P.M.	
	Cent.	Fahr.	Cent.	Fahr.	Cent.	Fahr.
0	82·6	180·68	85·2	185·36	84·7	184·46
16·5	85·8	186·44	106·4	223·52	110	230
32·5	113	235·4	120	248	121·8	251·24
47·5	122·7	252·86	123	253·4	—	—
62·8	123·6	254·45	127·5	261·5	126·5	259·7

“The third of these columns of temperature belongs to the observations made immediately before the second of the two discharges. You will observe, that, just at first, the temperature of the water at the bottom of the tube is above that at which water would boil at the surface, that it decreases always towards the upper parts, where the temperature is necessarily made lower by evaporation. Again, the temperature alters but little, both above and below, during the whole time, though in general it rises, while in the middle parts a constant and quicker increase of heat occurs, and at last the boiling-point due to each height is actually or very nearly reached.

“Nothing now is required to disturb the balance of forces at once from top to bottom, but a gentle impulse, such as a slight lessening of the pressure from above. This is brought about by the formation of single bubbles, which always occurs before boiling properly commences. The column of water at any given depth, for instance at 32·5 feet, has just reached the boiling-point; therefore the higher temperature of the water rising from below cannot be employed in heating this layer of water any more, so that this excess must give rise to some bubbles, which have elasticity enough to upheave the water above them. That this is taking place may be known by the surface of the water in the basin suddenly rising into a mound. But when these bubbles have reached a layer of water, which is still below the boiling-point, they are again condensed into liquid, and thus the balance is restored. This process is often repeated, each time more quickly following the last, for several hours before the outburst, and is always accompanied with a loud noise, caused by the striking of the water-surfaces where the bubbles are condensed. By degrees more and more of the column approaches the boiling-point; any steam-bubble now coming up cannot be condensed so quickly,

but increases more and more in size as it rises, and at last heaves up the water in the middle of the tube through several feet. A part of the water-column is thus removed; the pressure that retains the bubbling up of the steam is lessened; and steam must begin to be formed at all parts of the water, which were nearly boiling before. As the bulk of steam in the tube increases, greater masses of water are displaced upwards, and the resistance from above diminishes more and more. Steam is now given off very fast, and sets in motion the water that still remains liquid, which, mingled with the vapour is hurled into the air in a mighty jet, ten feet thick, to a height of more than a hundred feet. But this phenomenon lasts only a very short time. The water cooled in the air sinks partly back into the tube; the escape of steam ceases; and all returns again to perfect rest; the outbursts follow each other after unequal periods. It is evident that differences in the rate of cooling from above must have a great influence in causing these variations.

"In the other great spring near the Geyser, the Strokkur, the same behaviour may be observed as in the former. But its shaft is not cylindrical, but narrows off towards the bottom, so that the lower opening may be stopped by throwing in turf and stones. There then always follows after a short time a more violent outburst of the water, by which the substances thrown in are hurled up into the air.

"Bunsen distinguishes yet another kind of intermittent springs, of which great numbers occur in Iceland, and of which the discharges do not take place in shocks, as is the case with the Great Geyser, and are not ended in so short a time. They are repeated with great regularity, in some springs in periods of a few minutes, in others of several hours. The spring known by the name of the Little Geyser may be instanced as one of the most remarkable. The mouth of the Little Geyser is in a conical mound of tufa, and is partly covered with stones. Between these stones, which at certain periods are left uncovered by the water, the jet of boiling water forces its way from time to time. The discharges, at the time of Bunsen's visit, were repeated with great regularity after periods of three hours and forty-five minutes; the chief outburst, which far surpassed all the others in extent and beauty, taking place between nine and ten o'clock in the morning. Its approach makes itself known by a gradually increasing escape of steam, and by a splashing of water under ground. Then hot foam is thrown out with the steam in jets, which rising and falling slowly at intervals, keep mounting higher and higher, until after about ten minutes, when the phenomenon has reached its greatest development, they shoot up in bundles, as it were, spirting upwards and sideways to a height of thirty or forty feet. Then the jets dwindle again in size and height, just as they seemed to grow before, until, after another ten minutes, the spring is again entirely at rest.

"For the explanation of these periodical discharges, Bunsen is inclined to adopt the assumption, suggested before him by Mackenzie and others, of underground hollows, into which both water and steam find their way at the same time. The water is heated to boiling, by the steam, by the gradually increasing elasticity of which it is forced out: just as the water is driven out of a fire-engine by the expansion of the air condensed in the air-chamber." (pp. 64-73.)

Excellent as this little volume is, we think the last Letter, "On the Electricity of the Air and Lightning", would be better for revision, and we should have been glad had the silence observed on the subject of terrestrial magnetism been broken. The book, however, has been most carefully written, and contains but few errors, which Dr. Hofmann, whom we must congratulate on his mastery of our language, as evidenced by this pleasantly-reading translation, will doubtless correct in the next edition, and so secure to this work its proper place as a permanent text-book on terrestrial physics.

ON THE FALLACIES OF HOMŒOPATHY, AND THE IMPERFECT STATISTICAL INQUIRIES ON WHICH THE RESULTS OF THAT PRACTICE ARE ESTIMATED.
By C. H. F. ROUTH, M.D. pp. 84. London : 1852.

The work is divided into three parts. In the first, the theory of homœopathy is discussed. The law *similia similibus curantur*, it is shown, is occasionally true, but by no means of universal application. As Dr. Routh thinks, from the doctrine of the succussion of fluids, and the psoric theory, there is evidence to believe that in the latter part of his life, Hahnemann was slightly deranged, he purposely discards all his experiments subsequent to 1796. To show that the law *similia similibus curantur* is not of universal application, Dr. Routh gives the following example. "In some cases of otitis involving the dura mater, we have shivering followed by hot fits, exactly resembling the paroxysms of ague ; of a quotidian, sometimes tertian, or other type ; and what is still more singular is, that they seem to be checked for the time by the exhibition of bark. Now bark certainly produces symptoms, as alleged by homœopaths, very like those of ague—in addition, intense headache, all the symptoms of cerebral congestion, eruption within the ear, deafness, etc., the symptoms of otitis." (p. 7.) In giving bark here therefore, we should have the exact application of the principle *similia similibus curantur*, and yet death would inevitably follow the practice. Dr. Routh shows this objection is fatal to the legitimate, especially to the isopathich homœopaths.

Dr. Routh then enters on the subject of the infinitesimal dose, which he proves to be null and void in its effects, by very reason of its littleness. Two examples are given. Thus : so that a quadrillionth of a grain should be contained in each drop of the whole waters of the globe, only 1·32,603 grains need be added. "Again : if a decillion globules were placed side by side, it would take 1285 sextillions of centuries for a ray of light, travelling at the rate of 200,000 miles a second, to reach the other end."

Dr. Routh then exposes the shifts made use of by homœopaths to get rid of the absurd dogma that there could be every effect produced by such doses. 1. The renunciation of the infinitesimal doctrine ; 2. The adoption of pilules, or larger sized globules, capable of containing one quarter of a drop, or grain doses ; 3. The combination of homœopathy with allopathy ; 4. The dishonest practice of occasionally putting most powerful poisons in an homœopathic form. Each assertion is duly established by authorities given, and facts recorded.

Dr. Routh next proceeds to show that even if honest, the homœopath can place no reliance on his pilules, from the very impurities contained in them. The chapter concludes with a disproof of the alleged power of infinitesimal substances taken internally, and yet by which sensible influences are produced. The examples of malaria and odoriferous substances, vaccination and inoculation, and of the alleged infinitesimal quantities of the ingredients contained in mineral waters, Dr. Routh shews are incorrectly given as instances of the action of the infinitesimal doctrine. *The first*, because the substances are taken by inhalation ; and Dr. Routh proves that the effects of inhalation and ingestion are very different, even with the same medicinal substances ; and because, after all, smell may, like light and sound, be diffused, not by *subdivision of its ultimate particles*, but by communicating a peculiar undulatory movement to surrounding media. *The second*, because the similar or beneficial effect of inoculation and vaccination is confined to small-pox, and does not apply to other diseases. *The third*, because the term *infinitesimal* applied to the composition of mineral waters, is a misnomer, such substances being detectible, both chemically and physically, in other words *appreciable*.

The second part has relation to four general influences. 1. Those of *locality*, shewing the unfairness in testing the diseases of one country by those of

another too exclusively. 2. Those of *type*, which may vary not only in different places, but in the same places, at different epochs, and even at intervals of weeks. Several tables are given to prove these statements; one especially, where the weekly mortality for more than a year is given for all Ireland, and its four provinces singly. The difference in the mortality is shown in this case to be sometimes three times as great from one year to another. 3. On the influence of *mind*, Dr. Routh dwells at length. He conceives mind may operate in three ways. By *faith* or *credulity*; 2. *emotionally*; 3. *epidemically*. These three *modi operandi mentis* have been usually confounded. Instances of the operation of each are given. The influence of *faith* Dr. Routh has well exemplified, by a series of experiments performed with inert substances and coloured water, some of which are certainly most extraordinary. The *emotional* system of nerves, distinguished from the voluntary and excito-motory systems, as laid down by Dr. Carpenter, is traced in its influence upon disease, and several examples of its operation given. 3. *Epidemics* may be supposed to disorder general health, the practical inference of which is, that they are best combated by mental action. As a corollary, Dr. Routh points out the source of fallacy from confounding *coincidences* with *effects*.

The chapter concludes with an analysis of some of the alleged cures upon animals and young children, on whom mind, it is alleged, can exert no influence, and who, if cured at all under homœopathic treatment, must have been cured *by the power of the globules*. Dr. Routh disposes of these cases in a twofold manner: 1. Admitting for the sake of argument, the absence of psychical powers in animals and children, he analyses a few of these cases of alleged cures in animals, and he shews, that on reference to the account given of these, they are either cases *falsely diagnosed, coming second-hand*, and from *unprofessional persons*, and therefore not to be depended upon; or cases treated so severely by hygienic regimen, that the cure is to be attributed to this influence and not to the inert globules. The powerful influence of such treatment in children is then spoken of, and the remittent character of their diseases pointed out, so that the alleged cures are to be assigned either to coincidence or severe dietetic regimen. 2. Dr. Routh then denies that psychical powers are absent in children and animals; at any rate, in animals, emotional powers are in operation; and in children, as with the excito-motory system, the *emotional* is unduly excited, and will thus materially affect disease.

The remaining part, subdivided into two sections, is the most important. In the first, the *great mortality of hospitals* is spoken of. The homœopathic hospitals give a mean mortality of 4·3 per cent.; the allopathic of 7 to 10 per cent. Dr. Routh shews the homœopathic returns to be untrue, or at least incapable of honest comparison with allopathic returns.

1. Cases brought moribund are as invariably included in allopathic returns, as they are excluded in the homœopathic; making, in one disease alone, sometimes a difference of four per cent.

2. The cases are selected for their *mildness* in homœopathic hospitals. Thus, between the years 1835-43, there were admitted into Fleischmann's Hospital at Vienna, of amenorrhœa, chlorosis, and headaches a proportion of 22 per 1000 cases. Into the Leipsic Homœopathic Hospital, 29 per 1000. In Glasgow, 4 per 1000. In the Vienna Allopathic Hospital, including all cases of *cerebral congestion*, 18·9 per 1000 to all admissions. Again, peculiarly fatal diseases, such as *phthisis*, are carefully excluded. Thus, in allopathic hospitals, the proportion varies from 4 to 9 per cent. Fleischmann admits 1·5, Leipsic 1·6 per cent. Dr. Routh thus confirms Dr. Balfour's conclusions, that the great cause of Dr. Fleischmann's success, lies in the fact of the admissions and dismissals being entirely uncontrolled.

3. Dr. Routh again points out the effect of accommodation in hospitals on mortality,—if the hospital be large, a large proportion of mild cases are

also taken in. This is shown to be the case in a twofold way; 1. by the example of the London hospitals, and the number of deaths to 100 beds, ascribed to be continually occupied, which number, in proportion as it is large, must be taken as the index of small accommodation and severity of cases. Dr. Routh exemplifies this further in reference to the number of beds and proportion of *admissions*. Thus, University College Hospital admits 9 patients to every bed, mortality 11·3. Fleischmann admits 21 to every bed, Leipsic 9·7, showing that the homœopathic cases are less severe. Indeed, statistics given of Leipsic show that the proportion of acute cases to chronic is only 19·5 per cent.

4. Dr. Routh confirms Dr. Balfour's observations on the comfort and cleanliness of Fleischmann's Hospital. In addition, the patients are not manipulated, as in allopathic hospitals.

5. The class of patients is better. This influence on mortality is well brought out by a comparison between our hospitals and workhouses. In the former, the mortality among the sick varies from six to eleven per cent.; in the latter (among the healthy as well as sick), that is, all inmates, from eleven to twenty-seven per cent.

6. The influence of *age* is next insisted upon. Out of 1648 cases where the age is given, there were admitted into homœopathic hospitals, under ten, 11·2 per cent.; from ten to forty, 73·7 per cent.; above, 15·1. Dr. Routh shows that this is not the correct proportion, since the proportion of persons living at those ages is respectively 25·3, 52·5, and 21· per cent.; and it is precisely in the first and latter periods that there is most disease, and least chance of recovery. There is, therefore, a selection according to favourable ages. This is further exemplified by comparison with the army returns, where the ages are also favourable, and where the mortality does not exceed 3, but is usually 1 per cent.; and by a statistic from the Grand Hospital at Turin, in which the mean mortality for the second period is 4 per cent.; for the third, 14 per cent.

The second section relates to special diseases, and it is impossible to do justice to it in an abstract. The diseases treated of are pneumonia, pleuritis, encephalitis, fever, dysentery, and cholera.

First, PNEUMONIA. The mortality is, with homœopaths, 5·7 per cent.; with us, 24·5 per cent. Dr. Routh again proves unfairness in the former number.

He has adopted a novel method, we believe, to prove this; also applied to the other diseases, before mentioned. The proportion of pneumonia cases to all cases admitted by Fleischmann, is 4·5 per cent.; of bronchitis, 0·8 per cent.—even including *all* cases of chronic cough, only 2·7 per cent. In the allopathic Vienna Hospital, it is, pneumonia, 2·1 per cent.; bronchitis and catarrh, 7·5 per cent. Dr. Routh shows that one of two conclusions only can be drawn from these facts; either, that among the homœopaths the diagnosis is incorrectly made, or that the cases are selected; indeed, there is great evidence of bad diagnosis, since, with homœopaths, we read of such diseases as muscular pleuritis and muscular peritonitis!

Sex. Pneumonia is most fatal with females. The larger number of patients affected with pneumonia, in homœopathic hospitals, are males. By selecting males, their mortality is diminished.

Age diminishes mortality in pneumonia, as shown by the mortality of the army and navy. It is seldom fatal between fifteen and forty; the very ages in which homœopaths take in most patients.

Variety. Homœopathic cases are chiefly *idiopathic*. These several circumstances tend to diminish the mortality. Dr. Routh winds up the subject of pneumonia by a comparison of forty-one cases of pneumonia from Tessier, and a hundred and forty of Drs. Taylor, Walshe, and Peacock, in which he proves how unfair the returns of the former are, as given. His mortality is, instead of 7·3 per cent., in reality 14·7 per cent., and this with cases certainly favourably conditioned; whereas the mortality obtained from the three latter observers, 30 per cent., was due to the larger number of old

persons and complicated cases; the proportion of the latter being 55 per cent., while Tessier's was only 17 per cent.

In regard to treatment, and the admitted fact that some cases get well in the hands of homœopaths, Dr. Routh explains these recoveries by the effect of simple dietetic treatment; and he gives several examples, chiefly from Grisolle and Dietl, in which this method was found successful. At the same time, he points out that the duration of the disease, and its mortality, are materially influenced, and manifestly shortened or diminished, by proper allopathic treatment.

Omitting the chapter on PLEURITIS, in which Dr. Routh shows up, as evidence of bad diagnosis, two cases taken from homœopathic writers, and proves that they admit fully three times as many cases as we do; and on PERITONITIS, where another disease, distinct from the idiopathic form of this country, is spoken of, and where homœopaths admit one-third more cases; also on ENCEPHALITIS, of which disease Dr. Routh quotes a case from Fleischmann, alleged to be such, which is not so at all; we pass on to the subject of FEVER.

Those who have seen Dr. Sampson's work on homœopathy, will remember the cases of fever and dysentery so successfully treated at Bantry by Mr. Kidd, given in the appendix. Dr. Routh shows, first, that while Fleischmann admits 9 per cent. cases of fever, and 12 per cent. cases of typhus, to all admissions, the Vienna Hospital admits only 2 per cent. of the former, and 5 per cent. of the latter. Here, again, as before, either the cases are selected, or incorrectly diagnosed. In either case, a comparison with allopathic hospitals is incorrect. But there is other evidence in this return of falsification. If Fleischmann admitted more cases of typhus, as this disease is the *nosometer* of other diseases and of their mortality, *his mortality should be greater*. The reverse is the fact. Indeed, in this, as in some of their general mortality tables for hospitals, they prove a great deal too much, since they obtain a mortality positively less for their sick, than that of an entire population including healthy as well as sick. Thus no dependence is to be put on these returns. But, Dr. Routh continues, admitting those homœopathic returns to be true for typhus, the comparison with Glasgow is unfair, as where we have an admission of typhus cases amounting to 48 per cent., while they have only 12 per cent., their mortality must needs be greater.

The low mortality obtained by Mr. Kidd, Dr. Routh explains in this manner. 1. The cases were chiefly taken under treatment in the first week of seizure, in which the mortality is always least. Thus, 82 per cent. were taken in the first week, instead of 63 per cent.; while in the second week only 17.3 were taken, instead of 32.6. This selection of cases Dr. Routh shows would have alone sufficed to reduce the mortality 9.5 per cent. 2. Mr. Kidd's cases were also younger. 3. The Irish fever was best treated by attention to diet and hygiene, apart from medicines. Upon this point allopathic experience left no doubt.

The concluding remarks on CHOLERA show very forcibly the total want of honesty in the homœopathic returns—since choleraic cases and cholera are all lumped together; and, while the favourable epochs of the disease are selected for homœopathic treatment, the most fatal periods are selected for allopathic. Tessier's returns are also analysed. The returns here are more honest; but, at the same time, instead of a fictitious mortality of 4.4 per cent., they give the less gratifying one of nearly 40 per cent.

Dr. Routh concludes, first, that reputed homœopathic cures are due,—1. To influence of mind. 2. To the *vis medicatrix nature*. 3. To excellent dietetic regimen. 4. To allopathic treatment surreptitiously conjoined.

And, secondly, 1. That their diagnosis is in many cases incorrect. 2. That therefore their statistical returns are in many cases falsified. 3. That they allow nothing for the different and varied circumstances under which patients are placed, as type, comfort, locality, idiosyncrasy, etc. 4. That therefore their comparisons with allopathic practice are unfair, and not to be depended upon.

Such is a brief and imperfect abstract of Dr. Routh's talented, luminous, and convincing pamphlet. It completely demolishes the pretended statistical basis on which homœopathy is said to rest, and exposes the fraud and fallacy of the whole system. It ought to be placed in the hands of intelligent persons, who, though fascinated with the attractive simplicity of homœopathic quackery, and impressed with the hardy assertions of those who live, or try to live, by it, are nevertheless able and willing to examine the character of the figments upon which have been founded the therapeutic romances of such men as Dr. Hahnemann, Dr. Quin, Dr. Henderson, and Dr. Ransford—the toxophilite of Mercurial fame.¹

Let us also congratulate the profession on what has recently been done by it towards self-purification. Dr. Henderson, and other homœopaths, have, within the last few weeks, for their unprofessional proceedings, been expelled from the Medico-Chirurgical Society of Edinburgh; and no regular physician or surgeon in London, Edinburgh, or Dublin, would now knowingly meet in consultation with a homœopathic practitioner. These statements could not have been made at Brighton in August last; and the fact that they can now be made, constitutes the reward, and marks the general approval of the great movement of the Provincial Medical and Surgical Association which there and then took place.

NOTES ON LUNATIC ASYLUMS IN GERMANY, AND OTHER PARTS OF EUROPE.

By W. F. CUMMING, M.D. 8vo. pp. 82. Edinburgh and London: 1852.

The author, to use his own words, "having for a long period interested himself in the subject of insanity, and visited the asylums of many countries, both in Europe and the East, was desirous of becoming acquainted with the institutions of Germany, and of seeing if the metaphysical character of the people manifested itself in peculiar forms of derangement, or in peculiar methods of cure". The valuable pamphlet now before us owes its origin to this circumstance.

DR. CUMMING states, that physical restraint is still much used in the best continental asylums; and that, in general arrangements, the asylums of this country are superior in most respects to those of other lands. Regarding the asylum of SIEBURG, seven miles from Bonn, he writes: "The internal accommodations are very inadequate; and this is especially the case in the apartments for the violent, which were over-crowded, and not over-clean. In them, I saw several patients of both sexes under restraint, and notably two who were enclosed in a sort of wooden sentry box, with only their heads and necks exposed. I was not a little struck with this apparatus, which looked more like a Chinese punishment, than a means of medical treatment; but on asking Dr. Föcke the history of so strange a practice, I had the mortification of learning, that the model of the apparatus had been brought by Dr. Jacobi from England, many years ago, and that they had always retained the name of 'English chairs'! I trust that no such instrument of durance is to be found in England at the present day." (p. 59.)

There is one point on which Dr. Cumming insists, which we think of great importance; namely, the urgent necessity of increasing the number of resident medical men in attendance upon the inmates of our asylums. No general or routine system can be applied to all, with a hope of cure; and it is recovery, and not mere subordination, which ought to be aimed at. "While Hanwell," says Dr. Cumming, "with its 1,000 lunatics, has only two physicians resident in the asylum, Sieburg, with its 200 patients, has four medical officers; and Sonnenstein and Leubus, containing respectively 240 and 146 lunatics, have each three physicians. It is impossible that any one man can render himself so thoroughly conversant with the mental condition of 500 patients, as to be able adequately to direct their physical treatment." (p. 82.)

We commend this little work to our readers. It is elegantly and forcibly written, and contains much interesting and practically useful information.

¹ LONDON JOURNAL OF MEDICINE for 1851, p. 913-914.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

ANATOMY AND PHYSIOLOGY.

CLARKE ON THE STRUCTURE OF THE SPINAL CORD.

MR. J. LOCKHART CLARKE, in a paper on the Structure of the Spinal Cord, published in the *Philosophical Transactions* for 1851, gives the following summary of the principal facts described by him.

The posterior grey substance, at the lower extremity, and in the dorsal region of the spinal cord, consists only of a single mass; and the *substantia gelatinosa* there extends uninterruptedly across from one to the other. The nerve fibres of the grey substance, including those of the *substantia gelatinosa*, are not grey fibres bearing nuclei, like those of the sympathetic, but fine tubules. Two considerable columns of caudate vesicles (*posterior vesicular columns*) in intimate connexion with the posterior roots of the nerves, extend the whole length of the cord; commencing small at its lower extremity, increasing in size in the lumbar and cervical enlargements, and terminating at the upper part of the medulla oblongata. The number of caudate vesicles, particularly in the anterior grey substance, is in direct proportion to the size of the nerves. The column of vesicles into which, in the cervical region, the spinal accessory nerve may be traced, extends down the cord as far as the lumbar enlargement. A considerable branch of the spinal accessory nerve, after entering the grey substance through the lateral column, may be easily traced to the caudate vesicles of the anterior cornu. The spinal accessory is the only nerve immediately attached to the lateral column. The posterior roots of the spinal nerves are immediately attached to the posterior white columns only; and the anterior roots to the anterior columns only; but fibres from both these roots, after traversing certain portions of the grey substance, pass out again into the white columns. Neither the anterior nor the posterior white columns are connected by a transverse commissure. The central portion of the grey substance, immediately surrounding the spinal canal, is not a commissural structure, but a layer of fine fibrous tissue for supporting the walls of the canal, which is lined with a layer of columnar epithelium.

PRACTICE OF MEDICINE AND PATHOLOGY.

ALLIN ON RETRO-PHARYNGEAL ABSCESS.

We abridge an article on Retro-Pharyngeal Abscess, by Dr. D. C. M. ALLIN, from the *New York Journal of Medicine* for November 1851.

The formation of abscesses between the posterior wall of the pharynx and the cervical vertebræ, is not so rare as the general silence of writers on the subject would lead us to believe. A number of cases are, indeed scattered throughout the periodicals; but they lose much of their utility, by not having been hitherto grouped. The author's attention was directed to the subject by two cases, which he observed in the New York Hospital in 1850: in the first of which, the symptoms were attributed during life to laryngitis; and in the second, to syphilitic ulceration of the throat. He has met with reports of fifty-eight cases; which he has tabulated at the end of his paper.

Retro-pharyngeal abscess has been met with in an infant in the first month, and in the adult of sixty years. Of the cases recorded, however, most were observed in children under ten years. The more frequent occurrence of abscess at this period, perhaps, in many instances, is attributable to an hereditary scrofulous diathesis. In nearly all these patients, the disease is traceable either to an inflammation, enlargement and suppuration of the

lymphatic glands, behind the pharynx, or to caries of the vertebræ. The irritation and tendency to inflammation, always attendant upon the process of dentition, may also have some influence. Two distinct forms of abscess require attention: the *acute* or *idiopathic*, depending upon a local acute inflammation; and the *chronic* or *symptomatic*, consequent upon disease primarily affecting the cervical vertebræ. These varieties present many points of resemblance, both in their effects upon neighbouring organs, and in their surgical treatment; but in their origin, progress, pathological conditions, and medical treatment, there are many and strongly-marked distinctions.

ETIOLOGY. 1. OF ACUTE ABSCESS. *a. Predisposing Causes.* Retro-pharyngeal abscess may be the result of an hereditary scrofulous tendency; or of syphilis; of long-continued habits of intemperance; of difficult dentition; or of that state of the system, and locally, of this region, resulting from various cutaneous diseases, and especially those complicated with soreness of the throat, such as scarlatina, variola, and others.

b. Exciting Causes. One of the most common exciting causes is exposure to cold and damp air, followed by an inflammation in the pharynx itself, this inflammation proceeding to suppuration, the pus being deposited between the proper pharyngeal fascia, and the muscles of the pharynx lying upon it. Dr. C. Fleming, in an article upon this disease (*Dublin Journal of Medical Science*, vol. xvii), asserts his belief that it frequently arises from acute inflammation of the small lymphatics behind the pharynx. In some of the cases, suppurative inflammation was induced by the presence of foreign bodies in the pharynx, such as a bone of a fish. M. Mondière, and M. Prion, of Nantes, have assigned "retrocession of erysipelas of the face", as the cause of abscess of this kind. In the earliest of the cases at the New York Hospital, to which I have alluded, erysipelas of the face must have co-existed with, and it is possible that it was the cause, direct or indirect, of the abscess. Stricture of the œsophagus, or of rheumatism, has been mentioned as a reason for inflammation and acute abscess in this region. Sometimes the abscess is developed without any assignable immediate cause.

2. OF CHRONIC ABSCESS. *a. Predisposing Causes.* These are of the same character with those of the acute form.

b. Exciting Causes. Chronic abscess behind the pharynx is referrible, in nearly every instance, to caries, or to tubercular disease of the cervical vertebræ. The process of formation in *psoas* abscess is precisely identical with that connected with the upper portion of the vertebral column.

The irritation and subsequent inflammation produced by the presence of a fish-bone, may be, indirectly, the origin of a chronic abscess, by producing, primarily, caries of a vertebra. A case of this kind, the bone piercing the pharynx, and entering the body of one of the vertebræ, is recorded in the *London Lancet* for June 1847, p. 581.

SYMPTOMS. 1. OF THE ACUTE ABSCESS. The premonitory signs, like those of nearly all inflammatory affections of the throat, are, an undefined sensation of local uneasiness, stiffness in the back of the neck, accompanied with chilliness, followed, in a greater or less degree, by febrile excitement. These general symptoms are soon succeeded by pain and soreness in the throat, aggravated during deglutition. Febrile excitement is not, in all cases, well marked, for very frequently the feeling of chilliness is continuous. In very young children, the commencement of the disease may be attended by convulsions. Associated with the pain and soreness of the throat, there is not unfrequently œdematous swelling of the anterior and lateral portions of the neck, sometimes very extensive, and liable to occupy the attention to the neglect of the actual source of danger. This symptom is also common to this disease and to œdematous laryngitis, an affection in which it is of exceedingly great importance that an early and accurate diagnosis should be made.

As the disease advances, pain and soreness of the throat are increased; a

peculiar fulness about the fauces, and a sensation as of some foreign body arrested at the base of the tongue, are experienced; deglutition becomes difficult and painful; the patient complains of excessive thirst; the respiration, at first attended with a slight snuffle, becomes laboured, irregular, sometimes hissing, at other times stertorous or roaring, or accompanied with a gurgling sound, from the passage of air through the viscid mucus, which collects about the fauces; the voice is very much changed, becoming markedly nasal, and resembling that consequent upon cleft palate; a cool perspiration, more or less profuse, appears about the head; the face and surface of the body are pallid; the pulse is sometimes full and forcible, but always quick and very frequent. If the disease is allowed to proceed, the symptoms are rapidly aggravated. The dysphagia becomes very severe, even fluids taken into the mouth being immediately rejected, chiefly by the nostrils. The breathing is more laborious, and interrupted by frequent and convulsive paroxysms of dyspnoea, or of suffocative cough, threatening immediate death. At this stage, also, in young children, the dyspnoea is liable to produce fatal convulsions. At other times, somnolency, or perhaps coma, is a prominent feature in their case. The paroxysms are induced or rendered more severe, by attempts to swallow, or by the horizontal position, and the patient consequently maintains an erect or partially erect posture. During these attacks of suspended respiration, the face is flushed, and sometimes of a dark leaden hue, the head thrown forcibly backward, the lower maxilla projected, the lips livid and cold, the tongue often protruded, and the pulse exceedingly rapid, sometimes 130 or 140 in a minute. Should the tongue be retracted within the mouth, and the patient requested to protrude it, it is spasmodically thrust out, and returned with considerable difficulty. There is also frequently a coarse mucous r le to be heard along the course of the larynx and trachea.

Upon examining the throat, there *may be* detected more or less congestion of the internal surface of the mouth and pharynx; and, with this, there may be also swelling and redness of the tonsils, and of the epiglottis. Should the abscess extend above the level of the glottis, as is the fact in nearly every instance, a tumefaction of the pharyngeal parietes can be seen, upon which is spread out the velum of the palate. If the forefinger be passed to the posterior wall of the pharynx, a firm, elastic tumour can be felt, commonly ovoid in shape, situated between the vertebr e and pharynx, pushing forward the latter, and, in many instances, even separating the al e of the thyroid cartilage of the larynx. The tumour may not always be found directly in the median line, and it may involve other organs in the neighbourhood. It is almost impossible to obtain, satisfactorily, the sensation of fluctuation in this region, as but one finger can be passed down to the swelling.

When the termination is fatal, death is almost always the result of asphyxia, produced by compression upon the larynx; though it may be caused by the opening, either spontaneous, or artificial, of the abscess, its contents passing into the larynx and trachea.

2. OF THE CHRONIC ABSCESS. The chronic variety of this abscess is almost universally symptomatic of some constitutional disease, of hereditary or specific origin; and the most frequent of these is caries of the vertebr e. The symptoms which belong exclusively to it are manifested, principally, during its formation, and are similar, with a few local modifications, to those attendant upon vertebral caries generally. Among the earliest of these are stiffness and dull pain about the neck, posteriorly, increased by the movements of the head, and, in some instances, most severe in the evening and night. Very frequently these phenomena are, for a long time, overlooked or neglected, or attributed to other causes than vertebral disease, a neglect which involves consequences of the most serious character. As the abscess becomes augmented, these symptoms become more marked, and are sometimes accom-

panied by partial or complete closure of the jaws. The abscess is liable to extend farther than in the acute form. The purulent matter may find its way downward, through the loose areolar tissue behind the œsophagus, even into the posterior mediastinal space, or into the lateral portions of the neck, beneath the deep fascia. In a case reported by Dr. Clark, of New Jersey, the abscess not only existed behind the pharynx, but "extended from the mastoid process along the course of the sterno-cleido-mastoid muscle of the right side, to the situation of the thyroid gland, which is fully occupied, giving the appearance of goître." All these symptoms may continue, and the abscess constantly increase in size, for an extended period, before producing any phenomena which excite alarm, and demand immediate and active treatment.

When the collection of purulent matter begins to press upon and interfere with the function of important neighbouring organs, another class of phenomena is presented. Dysphagia, increasing in severity, is followed by excessive dyspnœa, and nearly all the symptoms of acute idiopathic abscess. In the latter stages of many cases of the chronic variety, fever, of a low typhoid character, makes its appearance, and, unless it is promptly met and skilfully treated, death will inevitably ensue. The alleviation of the dysphagia, too, by opening the chronic abscess, is not always as satisfactory as in the acute form; for, by the long-continued tension, and greatly increased thickness of the posterior wall of the pharynx, its elasticity and contractile power are very much impaired, and the obstruction of the canal continues nearly as complete as before the opening.

DIAGNOSIS. A local examination by the eye, or the finger, or by both, will generally reveal the true character of the disease: but this examination cannot always be satisfactorily effected. This is especially true in very young children, for obvious reasons, so that diagnosis must be derived principally, if not wholly, from the rational signs: and complicated, as these sometimes are, with convulsions, or cerebral derangement, they are very liable to misinterpretation.

The disease which most resembles *acute* pharyngeal abscess, and with which, therefore, it is most liable to be confounded, in the earlier period of life, is *croup*. Very many are identical with those which occur in the course of an ordinary case of croup. There are, however, some well-marked points of difference between the two diseases. In the first place, the commencement of an attack of croup is very different from that of pharyngeal abscess. In the former, the peculiar crowing cough marks the beginning of the disease, in almost every instance, and difficult and audible respiration is present from the first; in the latter, the crowing cough is never heard, and dyspnœa, increasing *gradually* in severity, is always and necessarily preceded by difficulty of deglutition, which is seldom urgent in croup. Again, in croup, the difficulty of breathing is often very much relieved when the head is low, and is not increased by external pressure upon the larynx; in retro-pharyngeal abscess, the assumption of a horizontal position is immediately attended with most severe aggravation of the dyspnœa, and pressure against the larynx produces a similar effect, though in a less degree. In croup, the voice is at first hoarse, then weak and whispering, but always distinct; in pharyngeal abscess, there is an obstructed nasal or guttural modification.

A specimen of a singular form of retro-pharyngeal abscess, the symptoms having been attributed to spasmodic croup, was exhibited at the first meeting of the Pathological Society of London, by Dr. Peacock. "The sac of the abscess, which was the size of a small egg, was seen situated between the bodies of the upper cervical vertebræ and the back of the pharynx, not causing, however, much projection of the latter, from its being flattened in front. In connexion with the anterior surface of the sac there sprang a small cyst, forming a nipple-like prolongation into the pharynx, and completely closing the orifice of the glottis. It admitted the point of the little

finger, and was freely moveable, and perfectly translucent at its extremity and sides. The preparation was from an infant seven months old. The child had occasionally suffered from dyspnœa for three weeks, the symptoms having been very urgent for the last three days of its life. In the intervals of the dyspnœa, the respiration was natural, but the slightest exposure to cold, motion, or excitement, brought on a recurrence of the symptoms, which were attended, in inspiration, with a croupy sound."

Acute pharyngeal abscess may be confounded with *laryngitis*, with *œdema of the glottis and epiglottis*. The one can, however, be almost always distinguished from the other, if it be remembered that, in cases of œdematous effusion, difficulty of breathing is most urgent during an *inspiration*; while, in this form of abscess, the dyspnœa is nearly the same during expiration as during inspiration. The sensation communicated to the finger is very different. In the one case, a soft pultaceous swelling is felt just at the base of the tongue, and the epiglottis, swollen and curled upon itself, is detected with comparative ease; in the other, the tumour is hard and elastic, situated *behind* the larynx; and the epiglottis may be felt or seen entirely free from œdema. The more rapid progress of inflammation, and the total absence, or comparatively small degree, of dysphagia in laryngitis, will also aid in the diagnosis.

Chronic pharyngeal abscess has been mistaken for stricture of the œsophagus, for syphilitic ulceration of the throat, and for wry neck. Thorough exploration, then, is the great means by which this affection is to be distinguished from others occurring in the neighbourhood.

PATHOLOGY. The appearances presented by abscess in this region do not materially differ from those of abscess elsewhere. The only peculiarity worthy of special notice is connected with the chronic variety. One of the causes of this form is scrofulous disease of the vertebræ; and it is an important fact that, while in the lumbar and dorsal regions the *bodies* of the bones are the seat of the disease, in the cervical region it ordinarily is confined to the *articular surfaces*. For this reason, in long-continued cases, in which the abscess has been opened, and the disease has not been arrested, dislocation of the vertebræ may take place, and death may be the result of laceration or compression of the spinal cord.

PROGNOSIS. In cases of its acute variety, if the disease is recognised, and the proper treatment employed, a favourable termination may be expected. If it passes unrecognised, and no spontaneous or accidental opening into its cavity be made, death is certain. In chronic cases, the result of treatment is not always so satisfactory. The existence of an abscess may be definitely ascertained, and immediate and essential relief afforded by opening it; yet the disease of the bones may not be benefited by treatment, but continue to annoy the patient, until dislocation, or want of nutrition, terminate the case. In chronic cases, too, the pus may extend downwards, in the loose areolar tissue behind the œsophagus, into the thorax, death being produced by an inflammation of the pleuræ and lungs, induced by this contact of purulent matter; and again, it is possible, that the prognosis may be modified by the formation of metastatic abscesses in one of the important internal organs, as the liver, or the lungs.

TREATMENT. The proper treatment is divided into *surgical*, or that adapted to a removal of the immediate cause of the urgent symptoms, and *medical*, or that by which the patient is restored, as nearly as may be, to his original condition.

The surgical treatment of retro-pharyngeal abscess must be the same in both the acute and chronic forms. A temporary relief to the alarming dyspnœa has sometimes been afforded by laryngotomy, performed under the idea that the disease was croup. The alleviation of the dyspnœa has been prompt, and apparently satisfactory, but a speedy return of all the fearful phenomena has given a fatal termination to the case. Tracheotomy has also been

adopted, as a remedy for the same symptom, but with the same ultimate result as laryngotomy, though somewhat longer delayed. These operations, therefore, at best, are only palliative in their effects.

The only method of operating from which permanent benefit can be expected, is that of a free opening into the cavity of the abscess, through which its contents may be discharged, and the immediate cause of the dyspnœa and dysphagia thereby be, partially at least, removed. This opening may be made in various ways. Dr. Allin adopts the following method. The head of the patient being firmly supported by an assistant, pass the fore-finger of the left hand into the mouth, raise the velum palati, and press the point of the finger against the tumour. Then, with an ordinary scalpel, or bistoury, the blade being covered with adhesive plaster to within half an inch of its extremity, let a free incision be made, in the median line, through the posterior wall of the pharynx, into the cavity of the abscess; withdraw the instrument, and the operation will be completed. The pain attending the operation will not be great. By making a free incision at once, the necessity of repeating the operation is avoided, and the discharge of the purulent collection is more complete and satisfactory. No fistulous track is left to annoy the patient, and the recovery is more speedy, than when only a small opening is made. Should the position of the abscess be such, as to render it advisable that the incision be made at either side of the pharynx, particular care should be observed to avoid wounding the internal carotid artery, an accident which has occurred in opening an abscess of the tonsil.

The abscess being thus opened and the dyspnœa relieved, our attention must now be turned to the subsequent treatment of the case. And here we find it necessary to recur to our former divisions of this abscess into the acute and chronic forms.

The treatment adapted to cases of acute pharyngeal abscess, after the purulent matter is discharged, consists in the external application to the neck of emollient and soothing remedies, such as poultices or warm fomentations, until the urgent symptoms shall have been entirely relieved, and the quantity of discharge from the abscess shall have been much diminished. When this result has been obtained, the recovery may often be facilitated by the employment of some astringent gargle. A very excellent combination for this purpose is the following: *R. Biboratis sodæ ʒij; tincturæ myrrhæ ʒj; syrupi simplicis ʒss; aquæ puræ ʒviss. Misce.* Generally, tonics, and in many cases, even stimulants, may be required. For the fulfilment of this indication, probably no better article can be recommended than the sulphate of quinine.

This treatment, in connection with a nourishing diet, steadily persevered in, will, in almost every instance, restore the patient to his accustomed health, the time required for his complete recovery being subject to some variation.

In the medical treatment of chronic abscess behind the pharynx, our principal assistance must be derived from constitutional remedies, and these will differ according to the cause of the abscess, whether scrofula, syphilis, or caries of the vertebræ. Rest, tonics, and nourishing diet are chiefly to be relied on.

ARREST OF DEVELOPMENT A SIGN OF CRETINISM.

At the meeting of the Academy of Sciences, on November 17th, 1851, M. BAILLARGER read a memoir on arrest of development, considered as a characteristic sign of cretinism.

Cretinism is supposed by some to be essentially connected with more or less congenital deprivation of intellect—idiocy. Others add to this a state of physical degradation as a requisite condition. M. Baillarger assigns to cretinism, as a peculiar essential character, arrest of organic development.

He has examined the subject with regard to the organs and functions, especially those of dentition and puberty.

In some cases, he has ascertained that the second dentition did not commence until from the eighteenth to the twenty-fourth year; and that at that age there were frequently no signs of puberty. In these subjects, the stature remains small, the countenance infantile, so that the individuals would at first be taken for children eight or ten years old. Like children, they have a narrow chest, a prominent abdomen, slender limbs, and no development. It is also a remarkable fact, that the pulse remains as frequent in them as in children. In conclusion, he defines cretinism as the incomplete, irregular, and often very slow development of the organism.

This definition establishes a well-marked line of distinction between cretins and idiots. In congenital idiocy, the constitution acquires its full development, and the cerebral system alone is arrested in its evolution. [*L'Union Médicale*, 20th November, 1851.]

KUNZMANN ON THE DIARRHŒA OF CHILDREN.

DR. KUNZMANN, of Löwenberg, in an article published in the *Journal für Kinderkrankheiten* for September and October 1851, states that he has arrived at the following conclusions :

I. Cases of diarrhœa in children are to be divided into *sporadic* and *epidemic*.

II. Sporadic diarrhœa arises from various causes, chiefly from such as give rise to irritation or inflammation of some part of the mucous membrane of the intestinal canal.

III. The treatment of sporadic diarrhœa depends on the causes, which must be removed, on the amount of inflammation present, and on the amount of exhaustion which the child has suffered. Special rules cannot be laid down, as the cases vary much ; and it will depend much on the sagacity of the physician to determine whether he is to use emetics or purgatives ; leeches or fomentations ; neutral salts or emulsives ; astringents, stimulants, or opiates.

IV. Epidemic diarrhœa in children occurs under two principal forms—dysenteric (enterocolitis, enteritis), and choleric form (*diarrhœa cholericiformis, cholera infantum*). Less marked cases sometimes occur, and sometimes appear as mild diarrhœa, sometimes as mild gastro-enteritis or colitis, sometimes as diarrhœa with typhoid symptoms.

V. The treatment of these epidemic forms must be much more decided than that of the sporadic, inasmuch as the type is more strongly defined.

Dr. Kunzmann has had opportunities of witnessing an epidemic of each form of diarrhœa—the dysenteric and the choleric ; and he describes the symptoms which he observed in each form ; these, however, will be understood from the designations. The dysenteric form attacked children from three years old to ten ; the choleric, children from five months to ten years.

TREATMENT. In the dysenteric diarrhœa, Dr. Kunzmann found no indications for blood-letting ; not even when there was active fever, great tenderness of the abdomen, severe colic, and tenesmus, did he deem it proper or advantageous to apply leeches. In very severe tenesmus he used clysters, first of lukewarm water, then of cold water. As an internal remedy, he gave at first small doses of castor-oil ; and, when there was very active fever, hot skin, and very severe pain in the abdomen, he alternated this with small doses of calomel, with carbonate of magnesia and gum. When the inflammation has somewhat lessened, and when the skin was cooler and the dejections less copious, he found carbonate of magnesia with bismuth and charcoal very useful. To a child from three to five years old, he gave gr. i or gr. ij of bismuth, gr. iv or gr. v of carbonate of magnesia, and the same quantity of charcoal of poplar wood, every three or four hours. Sponges

dipped in cold water were also applied to the anal region. With these remedies, he obtained favourable results.

In the choleric diarrhoea, observed last summer, the treatment was more difficult. Sometimes the vomiting was so violent, and the children collapsed so rapidly, that there was no time for medicine. Happily, these cases were the exceptions. When the tongue was loaded, and there appeared to be a bad taste in the mouth, emetics of ipecacuanha with oxymel of squills were very useful. In other cases, Dr. Kunzmann gave moderate doses of carbonate of soda; and he has a very high opinion of this remedy. The inclination to vomit diminished, and entirely disappeared; and the dejections became feculent. After the vomiting had ceased, fever often supervened, with evening exacerbations. The carbonate of soda was still continued; but, in the intervals, disulphate of quinine or tincture of cinchona was administered. Dr. Kunzmann gave this, because he believed the disease to be traceable to a malaria; and the results corresponded with his expectations.

DANGEROUS GASTRO-INTESTINAL IRRITATION, AN EFFECT OF
TARTAR-EMETIC GIVEN IN PNEUMONIA.

In the *American Journal of the Medical Sciences* for October 1851, Dr. BOLING, of Montgomery, Alabama, calls attention to a dangerous effect which he has frequently observed to follow the use of tartar emetic in cases of pneumonia. It must be premised, that the amount given appears to have been from six to ten or twelve grains in the twenty-four hours: and that the effect in question seems to have been observed mostly in the Southern States. No distinct account of it is given by the Italian followers of Rasori; although, perhaps, the condition described as "loss of tolerance", may be in some instances identical with the result referred to by Dr. Boling.

The following is Dr. Boling's description of the phenomena. "Supposing the remedy to have been continued several days, the phenomena are developed much in the following manner. The patient may be seemingly doing well under the continued use of the remedy; the dulness on percussion, and the frequency of the pulse diminishing; the skin perhaps becoming moist, and the respiration improving. Suddenly in some cases, in others somewhat gradually, the patient becomes restless, the thirst is augmented, the discharges from the bowels are more numerous and thin, the abdomen becomes tympanitic and perhaps tender, the tolerance is lost, and, though he may not have done so for several days, he vomits, or makes frequent attempts to do so; the tongue becomes dry and pointed; there is jactitation present, anxiety of countenance, delirium, and perhaps stupor a short time before death. Occasionally jaundice supervenes; and in a few cases the matter vomited bears a close resemblance to that ejected in yellow fever. During the progress of the change, the pulse becomes more frequent, hard, concentrated, small, and thready. The rapidity with which the symptoms mentioned are developed varies a good deal. In some instances, death has taken place in about six hours; in every respect, up to that time, the progress of the case being apparently favourable, and the graver symptoms subdued. Often the case is protracted to ten or twelve hours, or sometimes longer.

"Simultaneously with the changes above spoken of, or, as it were, preceding them rather, more or less rapid disappearance of the signs and symptoms of the primary disease takes place. From a state of almost complete solidification of a single lung, with dulness on percussion, and bronchial respiration; in the course of four or five hours, the pulmonary tissue has become permeable, and the chest resonant and yielding a healthy respiratory murmur; a corresponding improvement in the cough, thoracic pain, difficulty of breathing, etc., proceeding at an equal rate. The rapidity with which this change in the condition of the lung takes place is proportionate to the violence and rapidity of the newly developed abdominal disease.

"In many cases of pneumonia under antimonial treatment, although the patient may seemingly have been doing well, the supervention of the slightest tympanitis, with augmented thirst, and a tendency to diarrhoea, may be regarded with suspicion, as the probable precursors of a very grave condition ; and I am now led to regard the patient's doom as almost settled, when, in addition to these symptoms, there is a *rapid* instead of a gradual removal of the dulness on percussion, *unattended with the crepitant râle of resolution.*"

Dr. Boling observes, that this affection is more readily produced when tartar emetic is combined with calomel. Except by some American writers, it does not seem to have been described ; but Gölis refers to fatal enteritis as being developed under the long-continued or incautious use of calomel in hydrocephalus and croup—the symptoms of the original disease disappearing *suddenly*.

To obviate the result, Dr. Boling has adopted the plan of giving smaller quantities—three, four, or at most six grains daily in six ounces of water—in small and frequently repeated doses, viz., a tea-spoonful every half-hour ; or two tea-spoonfuls every hour during the night. This plan generally succeeds. He has also tried the plan of giving the tartar-emetic in enemata—three grains every third hour, with fifteen or twenty drops of the tincture of opium in an ounce of water ; the results have in general been favourable.

SIMULTANEOUS OCCURRENCE OF MEASLES AND SCARLATINA.

In the winter of 1850-51, scarlatina prevailed in Vienna ; and was followed by measles. As the former diminished, and the latter began, a combination of the two was often observed. Cases occurred in which, on the third day of the eruption of measles, scarlatina appeared, occupying the interspaces between the spots of measles ; the pulse was very frequent, the tongue of a purple red colour, and cerebral congestion was imminent. In some instances, measles and scarlatina broke out together ; on the face and glutæal region there were scarlatina, and on the hands and feet a morbillar eruption ; the pulse and tongue were those of scarlatina, and angina was violent. The simultaneous appearance of the two exanthems was always attended with much danger. Those cases were of less importance, in which scarlatina supervened after or during the desquamative period of measles. [From DR. L. W. MAUTHNER'S *Report of the Clinical Department of St. Ann's Hospital for Children in Vienna*, as quoted in *Journal für Kinderkrankheiten*, Sept. and Oct. 1851.]

NUX VOMICA IN ASTHENIC DROPSIES.

Serous infiltration of paralysed limbs disappears with the paralysis ; which latter is sometimes cured under the influence of nux vomica. This remedy acts not only on the nerves of animal life, but also in those of organic life : it produces contraction of the muscular coat of the intestines, and is hence a good remedy in constipation from inertia of the intestinal canal. M. TEISSIER has been led to try whether it would act on the absorbents, so as to promote the removal of effusions connected with general or local asthenia. He relates five cases, in which the use of the medicine was successful ; and he does not seem to have had failures.

In the first case, there was œdema of the lower limbs, appearing after recovery from diabetes. In a month, the œdema was removed, but the diabetes reappeared ; on the removal of which, the œdema again appeared, but was cured by the use of nux vomica. In the second case, the patient, from bad nourishment, had considerable œdema of the lower limbs, and commencing ascites. Nux vomica was given. At the end of eight days, there was marked improvement ; and the cure was complete in twenty-five days. In the third case, there was ascites and œdema of the lower limbs,

following intermittent fever. Bark and iron were tried without success. Eight days after nux vomica had been first given, the patient felt cured. In the fourth case, œdema of the limbs, following typhoid fever, was cured in fifteen days.

The dose of nux vomica is from two to five centigrammes (gr. $\frac{1}{3}$ to gr. $\frac{2}{3}$) in the day.

M. Teissier as yet only asserts nux vomica to be applicable in cases of asthenic dropsy, unattended with any material obstacle to the passage of the fluids in the vessels, such as compression of a vein. [*Gazette Médicale de Lyon*, as quoted in *Gazette Médicale*, 11th October, 1851.]

SURGERY.

TUBERCLE IN THE VESICULÆ SEMINALES.

M. BOURDEL, of Montpellier, relates the following case in the *Gazette Médicale de Toulouse* for November 1851. It is quoted in *L'Union Médicale* for November 27th.

Cases of tubercle in the vesiculæ seminales are rare. M. Lallemand relates only one case; M. Louis, one; M. Lebert does not mention them.

CASE. In a young man, aged 23, who had died of pulmonary phthisis, and in whom numerous tubercles in all stages were found in the lungs, the right vesicula seminalis was three or four times its natural size. It was of a dull white colour, of harder consistence than natural, and of irregular form: the posterior part was curved inwards, so as to form an angle. Towards the lower part, it was soft, and fluctuation could be detected with the finger. On being cut open in its long diameter, the posterior portion was found to contain a cheesy, white, thick matter, very dense at some points. The anterior part was in a complete state of suppuration; and, on incision, some whitish unhealthy pus, containing a little cretaceous matter, escaped. There were no traces of semen, nor of partitions; but the envelope was throughout very dense and thick. The deferent canal ending in the vesicle was enlarged for four finger-breadths above, and contained tuberculous matter, part of which had suppurated. In the rest of its course, it was healthy; but the external extremity of the epididymis, on the same side, contained a tuberculous mass of the size of a nut. The ejaculatory duct was completely destroyed. The prostate gland contained two masses of crude tubercle, contrasting strongly, in their greenish white colour, with the grey appearance of the prostate.

CASE OF MOLLUSCUM DEVELOPED BY AN INJURY.

In the *American Journal of the Medical Sciences* for October 1851, Dr. H. H. SMITH reports a case, of which the following is a summary.

A woman, aged 56 years, previously in good health, pinched the skin of the arm; six weeks subsequently she noticed a spherical tumour, with a broad base, firm and resisting, moveable, and with the skin unchanged; no pain in the part; no other tumours elsewhere. Ten months after this, the principal tumour had attained the size of an egg, was lobulated, and had smaller tumours around its base; indurated lymphatics extended from it up the limb, but the skin remained natural. Caustic removed the tumour, and the ulcer healed. Six months subsequently, the tumours reappeared near the elbow. Caustic applications removed a considerable part of the enlargement, but left an unhealthy ulcer, accompanied by sloughing and frequent hæmorrhage. New tumours formed above the elbow, were removed, and then, the general health becoming impaired, the limb was amputated, nineteen months after the original exciting cause. Notwithstanding the absence of lymphatic disorder about the stump, the tumours reappeared in six weeks

upon the head, then all over the body, excited violent neuralgia, and resulted in death about two years from the first appearance of the disease. General inspection and microscopic examination indicated the presence of albuminous matter, similar to that of medullary sarcoma.

HYDRASTIS CANADENSIS IN GONORRHŒA.

In the *Ohio Medical and Surgical Journal*, as quoted in the *New York Journal of Medicine* for November 1851, Dr. M. M'CANN recommends the use of an injection of hydrastis Canadensis (yellow root, orange root) in gonorrhœa. He says that he has used it in several cases in various stages, and always with the most satisfactory results; more especially in males. The ardor urinae, and discharge of mucus, have been suspended in from twenty-four to seventy-two hours. Sometimes he used balsams of copaiba, sometimes injections of the infusion of hydrastis alone; but with about the same results. As a general rule, one drachm of the dried root makes a pint of infusion, a syringe-ful of which is injected three or four times a day.

OBSTETRICS.

EVANS ON COD-LIVER OIL IN NURSING SORE MOUTH.

The following is an abridgement of some remarks by Professor J. C. EVANS, made in the *North Western Medical and Surgical Journal*, and quoted in the *New York Journal of Medicine* for November 1851.

Nursing sore mouth generally affects females of delicate constitution and spare habit. It appears during the period of lactation. The symptoms are a burning sensation in the mouth, greatly aggravated by hot drinks, attended at first by but little redness, and followed by small ulcerations upon the tongue and different parts of the buccal cavity. In some cases, instead of these ulcers, there is a diffused redness of the mucous membrane of the mouth. These symptoms are generally attended and often preceded by a burning sensation in the stomach, pyrosis, indigestion, and occasionally vomiting. The bowels are most frequently relaxed, and in some cases an obstinate diarrhœa attends. The course of the disease is often variable. It is often attended by ulcerations in the vagina and upon the mucous surfaces of the labia, which generally grow worse as the irritation of the mouth subsides, and vice versa. The wasting of the system often continues, if the child is kept at the breast, until the patient sinks.

Nursing sore mouth is a disease of debility, consequent upon the marasmus produced by imperfect nutrition and the demand made by gestation and lactation, and generally speedily gets well after weaning the child, unless it has seriously impaired the function of nutrition. Profuse hæmorrhages and copious lochial discharges favour its development.

Treatment by medication, especially mercurial, generally aggravates the disease. Nitrate of silver, tannin, etc., may at first act as palliatives, but in the end they do more harm than good. The ulcers in the mouth may generally be promptly, but temporally relieved, by the application to each of a little pure muriatic acid; but others soon appear, unless the general condition of the system is improved.

In some instances marked improvement has resulted from abandoning medication altogether, and placing the patient upon an animal diet and the free use of mucilaginous drinks.

Observing the influence of cod liver oil in preventing the wasting of the tissues of the body in phthisis and mesenterica, it occurred to Dr. Evans that its influence might be equally beneficial in the disease in question; the diarrhœa and ulcerations of the mucous surfaces being in many cases similar to those produced by the marasmus in those affections. We have

accordingly been in the habit of prescribing it, taken in French brandy or malt liquor, as might be found best suited to the taste or most convenient, and generally with the happiest effects. Where the patient can be induced to continue its free use, it has uniformly proved beneficial, and in most cases effected a cure. If treatment should fail to relieve the disease, a resort to weaning the child should never be deferred until the patient loses her strength so that she cannot maintain the erect position.

RELATION TO PHTHISIS OF TUBERCULAR DISEASE OF THE UTERUS.

Professor THIRY of Brussels, in a clinical lecture published in the *Presse Médicale Belge* for 30th November 1851, observes, that the uterus is often the seat of tubercles. It is true that much attention has not been paid to this fact; but Dr. Thiry believes that, in many cases, where there is an apparent improvement in the symptoms of pulmonary phthisis, there is in reality a metastatic development of tubercles in the uterus.

Premising that an organ, as the brain, bones, lungs, etc., is disposed to tubercular disease in proportion to the activity of the circulation in it, the author applies this to the uterus. This organ will rarely be the seat of tubercles before puberty; but after that, in females of a tubercular diathesis, tubercles may be there deposited after they have been formed in the lung: or they may be at first developed in the uterus. In the first case, menstruation will have a salutary effect on the disease in the lungs; in the second, the uterus, at the menstrual periods, may serve as a safety organ, retarding or preventing pulmonary disease. It will be readily allowed, that, while menstruation continues, pulmonary phthisis makes little progress, or even remains latent. And, in confirmed phthisis, suppression of the catamenia is constant; and the aggravation of the disorder can be traced to the period of their cessation. Dr. Thiry has observed that, when the catamenia, after suppression, have returned in a case of phthisis in the first stage, amendment, and even apparent cure, has resulted. He mentions a case of this kind, in which he detected uterine tubercular disease with the speculum. Some time after, the same woman was attacked with severe symptoms of pulmonary phthisis: the uterine tubercles had disappeared.

During gestation, the uterus is the centre of an active circulation. If the woman, in this state, be seized with manifestations of tubercular disease, or if it be already developed in the lungs, the uterus will act as a *diverticulum*, and there will be apparent improvement in the pulmonary symptoms. But a specular examination will often shew that the tubercles have only changed their seat.¹ A greater or less quantity will be found agglomerated or infiltrated in the neck and body of the uterus; they will also be found in the placenta; and, if the woman should die during gestation, they will be found in the substance of the uterus, in the ovaries, and even in the Fallopian tubes. May not this tuberculosis of the uterine organs have some connexion with those dangerous cases of metritis which sometimes follow delivery?

After delivery, the tubercular disease may again manifest itself in the lungs, with even increased activity. Or the uterus, at the menstrual periods, may still act as a *diverticulum*. Or, if the woman suckle her child, a deposit may take place in the mammary glands, producing partial engorgement, ending in tubercular mastitis.

The diversion of tubercular disease produced by the uterus, is believed by Dr. Thiry to be analogous to what occurs in phthisical persons affected with anal fistula. [Abridged from *L'Union Médicale*, December 9th, 1851.]

¹ Not always: as in Dr. Tyler Smith's case, published in this Journal for February last. An examination of the uterine discharges should be made, in addition to the other means of examination. ED. LOND. JOURN. OF MED.

OCCLUSION OF THE OS UTERI COMPLICATING LABOUR—SUCCESSFUL
DELIVERY BY INCISION.

DR. W. H. REYNALD relates, that he was called to attend a woman in her first labour. But neither himself, nor two other practitioners whom he summoned, could find any vestige of os or cervix uteri, either with the finger, or by the speculum: nor could a probe be introduced. It was hence determined to operate, nine hours after Dr. Reynald had first seen the patient, and thirty-three from the commencement of labour. He wound a spear-pointed bistoury within half an inch of its point, and by carrying it between his index and middle fingers, he made an incision of about two inches in length, at the exact spot where he supposed the os uteri naturally ought to have been: water followed the incision. The opening dilated upon the contraction of the womb. The incision continued to dilate very much as the natural os would, and at the expiration of two and a half hours, the patient was safely delivered of a healthy female child, weighing nine and a half pounds. She recovered without one bad symptom. [Abridged from *Buffalo Medical Journal*, as quoted in *New York Journal of Medicine*, November 1851.]

EXTRACTION OF THE CHILD BY A NOVEL PROCESS.

DR. A. E. AMES relates the following case in the *North-Western Medical and Surgical Journal* for September 1851. Mrs. H—, in labour with tenth child; in labour seven hours; pains very hard; progress slow. First presentation of Baudelocque; previous to labour, the labia majora and minora had become somewhat swollen, and as labour progressed, the swelling increased, in consequence of the enlargement of the parts. The child's head being very large, completely filling up the pelvic region, and there being no prospect of a natural delivery, and it being impossible to apply the forceps, I determined to perform craniotomy. After having made an incision through the scalp, $2\frac{1}{2}$ inches in length, I raised the scalp, and passed two fingers of my right hand under it far enough, that when I made extension, the force would not come against the edges of the incision; then placing my left hand against the perinæum, I made extension with my right. This had a tendency to elongate the head of the child, and aided by the pains, which were very good from the first, the child was born alive. The wound was dressed with simple dressings. [Charleston Medical Journal and Review, November 1851.] How long did the infant survive?

REPORTS OF SOCIETIES.

EPIDEMIOLOGICAL SOCIETY.

JANUARY 5, 1852.

DR. BABINGTON, F.R.S., IN THE CHAIR.

TREATMENT OF CHOLERA, by J. Cox, M.B. The chief object of the paper was to bring before the society the results of the author's practical experience. The remedies he had alone found successful were calomel, sulphuric acid, and ice. This order of precedence indicated, in his estimation, their relative value. The calomel was to be given in small doses, frequently repeated, much after the mode of Dr. Ayre, but not combined with opium, as advised by that physician: the use of opium in any stage, or in any dose, Mr. Cox severely censured. His usual dose of calomel was two grains every ten minutes. The sulphuric acid was very useful in checking the vomiting, and neutralising the free alkali secreted by the stomach; but it must not be given after that the stools become green, from the calomel. The dose was ten minims (dilute acid) every half-hour, or oftener. Large doses of calomel or of the acid are objectionable. The cases cited by recent writers of *diarrhœa* successfully treated by easy doses of sulphuric acid, Mr. Cox thinks has no logical bearing on the treatment of *cholera*. He concluded, from experience and reasoning, that the acid was a most valuable adjunct; but not adequate *per se* to the cure of the malady. Ice was also of great service in creating and maintaining a reduced temperature in the abdominal cavity; and, consequently, in restoring heat to the general surface, and bringing back the pulse. He gave it by mouth, and also applied it externally to the abdomen.

Mr. Cox then entered into the statistics of a hundred cases, treated by himself, during and since the visitation of 1849. Of these, sixty-five were treated on the above principles, with a result of thirteen deaths, or only 20 per cent. The rest of the cases, treated in various ways, (stimulants, opiates, salines, etc.) resulted in a lamentable mortality; in a ratio ranging from 50 to 80 per cent. The author went on to say, that the experience of most of his professional friends was confirmatory of his views. After a detail of the peculiarities and treatment of these cases, there was given a summary of deductions, of which the following is an abstract:

1. That the use of calomel, in the manner advised, is not attended with any ill consequences.
2. That the stimulant mode of treatment leads too frequently to death, by *coma*, or by the violence of the secondary fever.
3. That suppression of urine (in cholera) is not in itself an unfavourable symptom. [A long statement of facts and deductions was entered into in support of this opinion.]
4. The return of the pulse generally precedes that of external warmth, and is the first recognisable symptom of restoration.
5. That a remarkable and decided *periodicity* is to be observed with regard to the symptoms of collapse. The exacerbation generally takes place every twenty-four hours.
6. The disappearance of albumen from the urine is a favourable sign. But, as its presence is by no means a constant symptom, of course this cannot be depended on as a means of prognosis.
7. That the hot-air bath, and other remedies of that class, are not only useless, but positively pernicious.
8. That the treatment of the period of reaction and convalescence is simple, and may be conducted on general principles.

9. That all stimulants are generally injurious; and that opium acts as a poison.
10. That the three remedies advocated, are those only on which reliance can really be placed.

Mr. Cox strongly censured the adoption of empirical formulæ, and also reprobated the *do-nothing system*.

DR. SIBSON, after thanking Mr. Cox for his paper, said that many remedies, unsuccessful at the commencement of the epidemic, proved successful at the close of its career, from the fact of its having exhausted its virulence. He thought calomel was of use in mild cases; but, in extreme collapse, no absorption could take place, and consequently no remedy could be of service. He suggested that saline injections into the veins would prove eventually a grand remedy.

The PRESIDENT observed that the paper, as far as it went, was a strong proof of the value of the calomel treatment, and that he entirely coincided in the author's views.

MR. COX, in a long reply, entered fully into an explanation of his pathological views; and answered Dr. Sibson's objection, by stating that his experience had not been confined to the treatment of cases at the *close* of the epidemic; but had extended *throughout* its career.

MONDAY, FEB. 2, 1852.

DR. BABINGTON IN THE CHAIR.

EPIDEMIC DYSENTERY IN CHINA IN 1841. By DR. BRYSON, R.N. After laying down the locality of various epidemic diseases, the writer proceeded to state that at present no known facts existed to show that maladies of this class had yet been traced to their primitive source, that many causes had been brought forward to account for the deadly and fatal effects, such as the nature of the soil, its elevation or depression, marshy, swampy situation, etc. In this particular instance much was attributed to the deadly emanations from the swamps and paddy fields, for in ascending the Canton river in 1841, the men were healthy while kept on board, even partial landing only causing slight disease. On the 6th July, however, when a large number were landed at Chusan, which is badly built and ventilated, surrounded by numerous swamps and paddy fields, filled with carcasses of dogs and everything filthy, the disease commenced. In the milder cases it began with slight purgings of a dirty-white fluid, thin and watery, easily arrested at first, but terminating in many cases in chronic dysentery. In more acute cases the purgings were like dirty chalk-mixture; they were bloody, and attended with cramps. Cramps sometimes occurred without purging.

While the south-west wind blew from the sea to the land, the disease kept up its virulence, but diminished as soon as it changed from the land to the sea. In three regiments numbering 2000 men, there were 1700 cases of diarrhoea and dysentery, of which 308 were fatal. There were 470 deaths in all, but the rest were from fever. Out of 4000 men landed, only 1700 were fit for duty. There was no doubt that the very bad rations supplied to the troops made the mortality greater among them than the sailors, for the salt meat supplied to the former (obtained from Calcutta) was putrid and badly cured, whereas that supplied to the navy, coming from a better source, did much to preserve the health of the men. The intoxicating liquors used among the Chinese were very bad, and were largely drunk by the troops, who were much exposed at night in guarding dismantled forts, and heavily worked in the day under a scorching sun, with rain and thunderstorms; indeed, so manifold were the depressing causes, that it seemed hardly necessary to look for more. Accordingly, after the capitulation of Canton, 1st June, when the troops moved down the river to Hong Kong, 1000 men were down with the disease. The Chinese had a belief that the

causes were atmospheric, for they foretold an unhealthy season, and did not hesitate to say that they thus hoped to get rid of their enemies.

Some of those attacked had dysentery and then fever, and *vice versa*; where the last, depletion was required, and when the fever was cured by quinine or arsenic, the dysentery came on again and again, until the patients were worn out. In these cases of dysentery the tongue was yellow, the body exhaled a fœtid, cadaverous odour, the discharges were mucous, and contained portions of membranes, and there were, in every third or fourth case, worms, both round and thread; some—indeed, many of the former—were from five to fifteen inches long, and as thick as a goose-quill. Emetics were used to dislodge them from the stomach, and calomel, followed by castor-oil and turpentine, expelled them *per anum*, without increasing the dysenteric symptoms. When in the stomach, they caused nausea, disgust, and attempts at vomiting, until they were got rid of. The ascarides were passed in bunches sometimes as large as nutmegs, containing from sixty to two hundred. It was supposed that the ova of these disgusting parasites were conveyed into the system by means of the water drunk; worms were found in it, which, although only half an inch long, had the same character under the microscope.

When the duties of the troops became light, and fresh provisions were obtained, the men became once more healthy. In the march to Nankin, such was the intense heat, and the men were so heavily loaded, carrying even their great coats with them, that no less than sixty died of coup de soleil, falling out of the ranks delirious, more than were killed by the cannon of the enemy; after this march, in going down the river, the disease again broke out. In the naval force, containing 6000 men, although there were 3000 cases, only 81 were fatal, although the sickness was so bad at one time that there were hardly men to raise the ships' anchors. The native Indian troops suffered very much, as, upon religious grounds, they refused to eat meat. From an account kept on board the *Cornwallis*, it appeared that when diarrhœa was rife, the dysenteric attacks were few in number, and that the dysentery was worse in cold weather. The remarkable fact that dysentery was worse in the Chinese rivers than in any other parts of the world, seemed to indicate that some special cause must exist, as yet undiscovered, certainly not explained by any of the ordinary causes.

DR. M'WILLIAM said, that nothing would be more valuable than a map of the world, marked with the different diseases peculiar to their various localities. In the expedition up the Niger, no dysentery was found to exist, although fever prevailed much; but months afterwards, dysenteric attacks came on in the fever patients. He (Dr. M'William) thought that the phrase "epidemic state of the atmosphere," or even "marsh miasm," had done much harm by arresting inquiry, especially hygrometrical surveys, etc. He did not mean to say that such terms were right or wrong, but he thought they served to prevent experiments, which, if constantly repeated in all parts of the world, might do much towards discovering the causes of epidemic diseases generally.

DR. LEWIS said surely, that after such a statement of melancholy facts as Dr. Bryson had read, the government were morally responsible for not taking the advice of the very able medical authorities, both military and naval, respecting climate, clothing, and food of the soldier, etc. More of our best troops were destroyed by diseases, and by being badly accoutred, overloaded by knapsacks, etc., even now at the Cape, than from the bullets of the Caffres.

DR. SIBSON hoped that this Society would map out the habitat of all diseases. He trusted that he might be allowed to explain that Sydenham, in using and giving us the phrase "epidemic constitution of the atmosphere," only meant, that when one particular disease was more prevalent than others, it gave to them its peculiar type. He should much like to know why dysentery

should be so peculiarly a disease of camps, independent of climate almost, at the summer and autumnal seasons, in such assemblies. He hoped that something would be done by government to clear up these matters, and to remedy them, if possible.

DR. MILROY said, that great benefit would arise from the publication of the valuable details sent home by the medical officers of the army and navy to the government; these ought to be published annually, and not kept hidden in the offices. He did hope that the Society would represent this to the proper authorities. These valuable documents could be published at an expense of about £300 or £400 per annum.

DR. JAMES BIRD said, that from his experience in India, he would draw the following inferences: 1. That the men had bad food. 2. That they drunk hard; were exposed to great vicissitudes of temperature between night and day. 3. That the nature of the individual did much towards modifying the disease; for instance, a nervous, delicate man would have fever, a strong one would have dysentery—nature's effort, through the aggregated and solitary glands of the intestines, to expel the disease. So much did dysentery prevail at one station in India where he was for four years, that government were compelled to abandon it, although well adapted for the men in every other respect.

DR. BEATTIE remarked, that in 1824 and 1825, it fell to his lot, while serving with the naval and military forces at Arrakan, in India, to witness the intractable and fatal nature of a disease exactly similar to that so well described by Dr. Bryson as having prevailed during the campaign on the coast of China. The mortality at Arrakan was most melancholy. In the light infantry regiment, of which he had medical charge (a native corps), 280 men died the three months of August, September, and October; nor was it possible to do anything satisfactory for the relief of the sick, so long as the regiment remained surrounded by the sources of the pestilence. From the observation and experience he then had, he (Dr. Beattie) came to the conclusion that the fever and dysentery did not depend on any one cause, but on a combination of several—such as exposure to the influence of great heat during the day time, and damp, chilly air at night, tainted by emanations from swamps, jungles, and animal and vegetable matter in a state of putrefaction, which had been exposed to the powerful influence of a tropical sun during the day time; profuse perspiration during the day, checked during the chilly nights; improper clothing, bad water, inaction, and languor of spirits, etc. These he (Dr. Beattie) believed to be the causes of the fatal disease.

Dr. Bryson had alluded to a state of inaction predisposing soldiers and sailors for the reception of disease. Of this there can be no doubt, there are so very many examples confirming the fact. During the Burmese war at Arrakan, there was but little sickness while the troops were actively engaged; but so soon as the town and country were taken, and the men were encamped, and had nothing of an exciting nature to do, fever and dysentery spread among them to a dreadful extent. A like effect took place at Athens during the second Peloponnesian war, so well described by Thucydides; and Prince Eugene, in his campaign in the beginning of the seventeenth century, was so well aware of the fact, that he was in the habit of exercising his men and horses within the camp, to preserve their health, when he could not carry on active operations against the enemy; and it would be well if our modern generals, whether in camp or in garrison, would act in like manner.

DR. BRYSON said that the question for inquiry was *why dysentery should prevail so much in the Chinese rivers, and so little in the Niger?* Did the filthy state of the former, the enormous use of human excrement there for manure, make the difference? Did the virgin state of the soil up the Niger conduce to fever? These were points thrown out for the consideration of the Society, and which could only be decided by the collection of a vast amount of experience.

TOPICS OF THE DAY.

London, February 27, 1852.

THE PROPOSED MEDICAL REFORM BILL. In our last number, we gave at full length the Draft Bill, "To produce uniformity of Medical Education and Qualification, and for the Registration of those licensed to practise in Medicine"; and we there made some remarks on the projected measure, stating our cordial acquiescence in its general principles, and expressing a hope, that by the exertion of forbearance and of a spirit of concession among the different classes of the profession, it might obtain that support which will enable it to pass into law. We are happy to say, that during the past month our hopes have been fully realised; that the approbation given to the Bill throughout the provinces has been extensive, and indeed almost unanimous; that the corporate bodies do not seem to offer any serious resistance to its enactment; and that the framers of the measure have shown a sincere desire to remedy any defects that have been pointed out to them, and to modify the details of the measure so as, as far as possible, to meet the views of all parties in the profession. Intrusted to such hands, and meeting with such support, we cannot doubt that, whatever temporary delay may occur from a change of ministry or from an abrupt close of the session, this Bill will ultimately pass through Parliament. It will not effect all that the profession need in the way of legislation, but it will at least introduce an uniform system, and form a basis on which to ground the superstructure of future improvement.

In remarking on the Bill, it is necessary to observe that it has two grand objects: the one to establish an uniform primary test, a common portal as it were, for all who may hereafter enter its ranks; the other to maintain some discipline among its members, and to give them a defined legal *status*, by a system of registration. The machinery for effecting each of these objects will be regulated by a Council, which will be established in each of the three kingdoms; and it is proposed that unity of action, and a common curriculum of study, shall be insured for the whole profession, by means of a Medical Congress, which is to be held triennially. The Council for England is established by Clause 3, and is to consist of the Regius Professors of Oxford and Cambridge, of a representative of the London University (the expression used in the Draft Bill as to *Professor* of London, is incorrect, and must be altered), and of eighteen other persons: six of these are to be chosen by the College of Physicians, six by the College of Surgeons, and six by the Society of Apothecaries. It is implied, as mentioned in our last number, that new charters will be granted to the colleges, by which they would become the real representatives of the physicians and surgeons throughout England. It must be doubted whether the arrangements made by the Bill with regard to the Society of Apothecaries are wise or even practicable. By the first clause, their powers as an examining body are entirely taken away, and they are in fact reduced to a trading corporation; how then can they be fitly intrusted with the task of nominating, for all time, one-third of the elected members of the Council? We believe that the framers of the measure were conscious of the anomaly, but were uncertain how to meet the difficulties on this point of the subject. Considering the great improvements which the Society of Apothecaries have carried out in their system of examination, it would hardly be fair, as it would certainly not be politic, to throw them altogether aside. Moreover, the objection occurs, how are these six places to be filled up? If given to the colleges, the general practitioners will complain that they are totally unrepresented

in the Council ; if placed in the hands of Government, that rock of official patronage, the dread of which did much to upset Sir James Graham's Medical Reform Bill, will again be touched, and a new and inconsistent element be introduced into the measure. The Bill has been framed throughout, with the object of securing the free working of the profession, untrammelled by official interference. We think, on the whole, it would be advisable to make some alteration in this particular.

The Council are to appoint an Examining Board, the number of which is wisely left to their discretion, and are to fix the salary which the examiners are to receive. We would suggest, that it would be as well to insert in this clause, a provision that the examiners so appointed are not to be members of the Council ; or, in other words, that the individuals who compose the Council are not to confer their patronage on themselves, or their colleagues. It may be that the provision would be a needless one ; but we should like to see it made ; it might possibly avert a course which would prove damaging to the *prestige* of the examining body. It will be seen that every person, subject to any regulations that may be made as to existing students, who has not taken out his diploma or certificate prior to the 1st of November in this year, will have, previously to his commencing practice, to present himself before the Council, and to satisfy them that he has complied with the regulations contained in the fifteenth clause. This lays down the basis of a curriculum of medical study, upon which the Congress are to ground their rules ; and it will be observed, that it contemplates more than one examination. The first one would probably be preliminary, and would exact a knowledge of the classics, and of such general information as no man who intends to practise a liberal profession ought to be deficient in. On being certified that the applicant has complied with all their regulations, the Council will grant to him a license, which will give him a title to practise, and enable him to assume the name of a licentiate in medicine, surgery, and midwifery. This step it will be incumbent on every medical practitioner to take, whatever grade he may ultimately intend to take in the profession ; but, if he wishes to be either a physician or a surgeon, he must proceed to the College of Physicians or Surgeons respectively, and obtain from them their diploma or license. It is this feature of the measure, enforced by the twenty-second clause, which effectually preserves the vested interests of those corporate bodies, and which will doubtless influence them greatly in giving their adherence to the Bill. There can be no question that by far the greater part of the licentiates who intend following general practice, will go to the College of Surgeons, in order to obtain the higher rank which attaches to members of that body ; just as is now done by the licentiates of the Society of Apothecaries. We trust that no opposition will be made by the College of Physicians to this portion of the Bill, on the ground of exempting physicians from this primary test ; for we feel convinced that the course laid down is the sound and correct one. It is the principle long contended for by the Provincial Medical and Surgical Association ; and it is one which undoubtedly commands the assent of the vast majority of medical practitioners throughout the kingdom. It will unite the profession together by a common tie, and will be the most effectual means of raising its general position. It will, moreover, guarantee the sufficiency of the examination, and give to it a *prestige* which one restricted to a single class in the profession could never obtain. For these and other reasons, we regard the enactment of an uniform primary qualification as the most important portion of the Bill, and one which, if duly carried out, will be productive of signal benefit to the profession.

We reserve our comments on the other parts of the measure till next month, when we hope to be able to announce that satisfactory progress has been made towards its passing into law.

THE JENNER MONUMENT. It has been broadly stated in a contemporary Journal, that the gentlemen who have formed themselves into a committee for the purpose of erecting in bronze Mr. Calder Marshall's statue of Jenner, are more eager to do homage to the artist, than to the great physician! We really think that so severe a censure, upon such an influential and honourable body of men as have united together of their own free will, for a special object, is both unwarrantable and absurd. We are far from saying that Mr. Marshall's statue is the best, or the only monument, which grateful nations ought to erect to the illustrious discoverer of vaccination; but let it be remembered that there is, at this moment, no other scheme before the public; that the project of erecting Mr. Marshall's statue has met with the cordial approbation of a large body of eminent men; and that money is already flowing into the treasury of the committee from all lands. Interference at this stage seems, therefore, to be both uncalled for and ungenerous. Let other admirers of Jenner erect another monument; but, at present, let those who wish to see Mr. Marshall's admirable statue speedily erected in London come forward with their subscriptions. The amount required is not large; a good deal has already been obtained; and if there be a surplus, which is probable, it is, we believe, intended to make it the nucleus of a benevolent fund for members of the medical profession overtaken by adversity. This matter, however, has not been finally considered by the committee; as, from the probable diversity of opinion which might exist, till the disposable balance be known, it has—most judiciously, we think—been resolved, to accomplish the erection of the statue in the first instance, and, in the mean time, to bring that object alone prominently before the public. The committee, we learn, are anxious to receive suggestions as to the best way of disposing of the anticipated balance.

WEST KENT INFIRMARY AND DISPENSARY: ELECTION OF HOUSE SURGEON. The Annual General Meeting of the Governors of the above Institution was held in the Infirmary, Maidstone, on Friday, January 16th; the Right Honourable the EARL OF ROMNEY presided. The number of out-patients had greatly increased over that of the previous year. In the course of the proceedings, DR. SIBBALD, one of the Physicians to the Infirmary, brought forward a proposition for altering the mode of election of the house-surgeon. He stated, that the medical officers of the institution had often observed the great inconvenience which had arisen in consequence of the frequent changes in the office of house-surgeon, and the necessity which had fallen upon the candidates of soliciting the votes of the whole body of governors. It was thought that it would be better to invest the power of electing a person to that office in the committee, aided by the medical officers. He therefore proposed that the committee "might have power to appoint to the office of house-surgeon any candidate they might consider best qualified; to suspend him in case of misbehaviour; and in case of suspension, sickness, or vacancy, to nominate some one to act in his place, until a successor be appointed." The resolution, having been seconded, was carried without opposition.

The Governors of the West Kent Infirmary have set an example which we hope to see followed in all country hospitals. As is well known, the usual plan of electing the medical officers of the country hospitals and infirmaries, is by a general meeting of the governors; those absent having often the power of voting by proxy. A personal visit to each governor—or, at least, a printed copy of the candidate's application and testimonials sent to each—is considered indispensable; and when it is remembered, that the governors of infirmaries generally amount to from two hundred and fifty to seven or eight hundred in number, scattered over an extensive district, it will readily be understood how heavily the expense of such visits, and of the printing

and postage of testimonials, must fall on the candidates—and especially on those who are unsuccessful. Besides, the governors, as a body, have not generally the means of judging of the merits of those who apply for the office of house-surgeon. A medical practitioner residing in the place in which the hospital or infirmary is situated, and who has earned for himself a reputation for skill, or who has otherwise gained the esteem of an extensive circle of friends, has a good chance of success when he is a candidate for a physicianship or surgeonsip: but the stranger, competing for the appointment of resident medical officer, very often depends for success on support from sources entirely foreign to his professional merits. We wish to call attention to this subject; and to express our conviction, that neither the West Kent Infirmary, nor any other analogous institution, will be worse provided with efficient resident medical officers, if they abolish “universal suffrage” in the election of such individuals. Let the medical officers of the institution, in which there is a vacancy, first decide from the testimonials, and, if necessary, from an examination of the candidates, which is the best qualified; and let the candidate thus recommended be elected by the Managing Committee. A complicated and awkward piece of machinery will thus be rendered simple and easy of management.

BOOKS PRESENTED TO THE EDITOR.

[*Exclusive of Periodicals received in Exchange.*]

- BALMAN, Thomas, M.D., on Scrofulous Disease of the External Lymphatic Glands. With Cases showing its connexion with Pulmonary Consumption and other Diseases. 8vo. pp. 180. London: 1852.
- BLUNDELL, W. F., M.D. *Medicina Mechanica*. 8vo. pp. 292. London: 1852.
- CORBETT, Joseph Henry, M.D. *Description and Surgical Anatomy of the Arteries*. 12mo. pp. 355. London: 1852.
- COULSON, William. *Diseases of the Bladder and Prostate Gland*. *Woodcuts*. 8vo. pp. 485. London: 1852.
- CUMMING, W. T., M.D. *On Lunatic Asylums in Germany, and other parts of Europe*. 8vo. pp. 82. Edinburgh, and London: 1852.
- DUNDAS, Robert, M.D. *Sketches of Brazil; including New Views on Tropical and European Fever; with Remarks on a Premature Decay of the System incident to Europeans on their Return from Hot Climates*. 8vo. pp. 449. London: 1852.
- EYRE, Sir James, M.D. *The Stomach and its Difficulties*. pp. 152. London: 1852.
- GROSS on Diseases and Injuries of the Bladder, Prostate Gland, and Urethra. 106 *Illustrations*. pp. 756. Philadelphia: 1851.
- MEDICO-CHIRURGICAL TRANSACTIONS. Published by the Royal Medical and Chirurgical Society of London. Vol. XXXIV. 8vo. *Plates*. pp. 361. London: 1851.
- MONRO, Henry, M.B. *On Improving the Condition of the Insane, by an Increased Inspection of Private Asylums*. *Two pamphlets*. London: 1851.
- RAMSBOTHAM, Francis H., M.D. *Principles and Practice of Obstetric Medicine and Surgery, in Reference to the Process of Parturition*. *With 120 Illustrations on Steel and Wood*. Third Edition. pp. 726. London: 1851.
- ROUTH, C. H. F., M.D., on the Fallacies of Homœopathy; and the Imperfect Statistical Inquiries on which the Results of that Practice are estimated. 8vo. pp. 84. London: 1852.
- SIMPSON, James Y., M.D. *Speech at the Medico-Chirurgical Society of Edinburgh relative to Homœopathy; with Notes on the Peculiar Theological Opinions of some Disciples of Hahnemann*. 2nd Edition. *Pamphlet*. Edinburgh: 1852.

- TAMPLIN, R. W., Esq. On Lateral Curvature of the Spine; its Causes, Nature, and Treatment. Roy. 8vo. *Plates*. pp. 44. London: 1852.
- THOMPSON'S Conspectus of the British Pharmacopœias. 16th Edition. Edited by DR. BIRKETT. 12mo. pp. 216. London: 1852,
- THOMSON, Spencer, M.D. Dictionary of Domestic Medicine and Household Surgery. Part I. London: 1852.
- WILSON, Erasmus, F.R.S. On Syphilis, Constitutional and Hereditary; and on Syphilitic Eruptions. *Coloured plates*. 8vo. pp. 235. London: 1852.

OBITUARY.

- FULLERTON, James W., Esq., Surgeon of the *Amazon* Royal West India Mail Steam Ship, by the wreck and burning of that vessel, on the 3rd January, aged 37.
- PAINTER, Charles B., Esq., Surgeon, at his residence, 4, Broadway, Westminster, on the 16th February.
- THORPE, Edward Hugh, Esq., Surgeon, at his residence, Bicester, Oxfordshire, on the 30th January, aged 38.
- UNDERWOOD, William Morgan, M.D., sixth son of the late Rev. THOMAS UNDERWOOD, Rector of Ross and Canon Residentiary of Hereford, at Spring Bay, Hobart Town, on the 25th June, 1851, aged 38.
- WAKE, Charles, M.D., at Henley-in-Arden, on the 2nd January, aged 73.
- WELCH, James Andrew, Esq., Surgeon, at his residence, 1, Dalston Terrace, London, on the 20th January, aged 54.

TO CORRESPONDENTS.

The next of the series of papers by DR. C. J. B. WILLIAMS, which was announced for publication in this number, has been unavoidably postponed, in consequence of the severe indisposition of the author. We have pleasure in stating that Dr. Williams is now quite well, and that we hope to receive his manuscript in time for the April number.

COMMUNICATIONS are acknowledged from DR. ROUTH, DR. HOSKINS, MR. WHITE COOPER, DR. SEMPLE, DR. HUTCHINSON, DR. SNOW, DR. PEACOCK, and MR. H. B. NORMAN.

THE LONDON JOURNAL OF MEDICINE appears in monthly numbers, on the first of each month, constituting an annual volume of about one thousand two hundred closely printed pages. The last (December) number of each volume contains a minutely accurate and elaborate Index, which renders its contents easily available; and likewise makes it a complete Annual Guide to the British and Foreign Medical Literature of the period.

One of the chief aims of the Editors is to supply, *early and faithfully*, an abstract of, or guide to, *every book or paper of practical value* which appears either separately or in contemporary journals. They strive, in fact, to place the busy or isolated practitioner as much as possible on a level with those whose leisure and locality afford them access to the best libraries.

In future numbers the occasional Biographical Lists will be incorporated with the Monthly Digest of the Journals. Each number contains several ORIGINAL ARTICLES on subjects of practical importance in Medicine, Surgery, and Midwifery. To this department of the Journal the most eminent men of the day have contributed, and have promised to continue to contribute.

THE TOPICS OF THE DAY are regularly chronicled and commented on: and in this, as well as in the other departments of the Journal, no opportunity is lost of exposing disgraceful and charlatanic practices, (now unhappily so prevalent), and of upholding the honour and dignity of the profession of Rational Medicine. Barren personalities, useless controversies, and exasperating polemics are excluded.

COMMUNICATIONS FOR THE EDITORS to be sent free to the Publishers, or to MR. RICHARDS, the Printer, 37, Great Queen Street, Lincoln's Inn Fields.

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A MONTHLY

Record of the Medical Sciences.

APRIL 1852.—No. XL.

ORIGINAL COMMUNICATIONS.

CASES OF FOREIGN BODIES IN THE EYE-BALL.

By WHITE COOPER, Esq., Ophthalmic Surgeon to St. Mary's Hospital, and Senior Surgeon to the North London Eye Infirmary.

SINCE the publication of my paper on Gun-shot Wounds of the Eye, in this Journal of November 1851, three cases of severe injury to that organ have fallen under my observation; and as points of interest are presented by each, it is proposed to relate them with the addition of a few remarks.

CASE I. FRAGMENT OF FLINT EMBEDDED IN THE EYE—EXTRACTION. Thomas Trigg, a tall, spare, feeble man, aged 65, residing at Merrow, near Guildford, was received into the North London Eye Infirmary, under my care, on the 22nd of November, 1851.

Six days previously, whilst breaking stones on the road, a chip of flint flew up and struck him with great force on the right eye, cutting through the cornea and burying itself behind the iris, between it and the crystalline lens. Active treatment was adopted; but his condition, when seen by me, was as follows.

There was acute inflammation of the conjunctiva, sclerotic, and iris; a vesicle projecting from the lower third of the cornea, near the mesial line, marked the seat of the wound through which the fragment had passed. The iris projected forwards, and was adherent at this point posteriorly, but it was also bulged by a yellowish body, a portion of which was visible through the pupil, though that was contracted and somewhat distorted. There was hypopyon; and though the

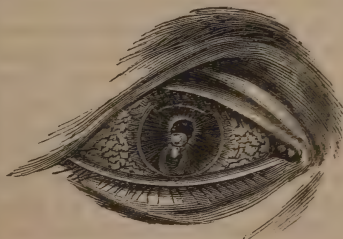


Fig. 1.

lens was opaque and sight utterly extinguished, the intolerance of light was distressing. The patient complained of unceasing agonising pain in the eye, which gave him no rest night or day.

The old man appeared quite worn down by suffering, and was by no means in a condition to bear active treatment. The pulse was slow and irregular, the skin cold and pallid, and the nervous system in a state of extreme depression. He was also under the influence of mercury, which appeared to have been very properly administered. He had travelled to town by rail, in a third class carriage, and had afterwards walked a considerable distance, which had materially aggravated his previous sufferings; the vibration of a railroad being peculiarly calculated to cause a foreign body pressing against the iris to excite irritation. He was immediately put to bed, warm tea administered, and the eye freely fomented. When reaction had been excited, four leeches were applied to the right temple, and an opiate administered. By these and similar means, including perfect quiet in a darkened ward, the acute inflammation rapidly subsided, although the neuralgic pain continued; and on the 25th, I deemed the eye sufficiently recovered to render justifiable an attempt at removal of the foreign body.

The exquisite sensitiveness of the eye, and the intolerance of light, rendered chloroform indispensable; and Dr. Snow, having first ascertained that there was nothing in the condition of the heart to preclude its use, kindly undertook its administration. The patient was placed in the recumbent posture, and when fully unconscious, an incision was made with Jäger's knife through the upper and outer margin of the cornea, about the sixth of an inch in extent. A pair of Charrière's delicate curved iris forceps were then cautiously passed through the wound into the pupil, and after one or two failures, arising from the depth of the substance and the limited space in which to work, the object sought was attained, and the chip, enveloped in yellow lymph, was withdrawn. The eye having been carefully cleansed, the corneal wound was adjusted, the lids closed, and retained with a strip of plaster, and cold water dressings were applied to the eye. The patient remained about half an hour on the couch, and when he had quite recovered from the effects of the chloroform, was replaced in bed, where he immediately fell asleep, and slept tranquilly for some hours.

Nov. 26th. The patient stated that he was "wonderfully easy", more so than he had been since the accident; the lids were quite free from redness or œdema, and there was no undue lachrymation.

29th. Nothing could have been more satisfactory than the progress of the patient so far. He had continued easy, had slept comfortably, and the eyelids bore a perfectly natural appearance.

30th. The eye was opened this day. There was no inflammation; the cornea was bright, and the wound well united. He had some perception of light, though the traumatic cataract prevented all vision.

He was discharged on the 4th of December, the eye having recovered from the operation, and being free from pain. Subsequently to his arrival at home he had some return of pain, I believe, and perhaps inflammation, but the accounts forwarded were not sufficiently explicit to enable me to form a correct opinion.

CASE II. CHIP OF STEEL IMBEDDED IN THE EYE. Robt. Chicken, aged 35, an athletic man, working as an engine-fitter at the Great

Western Railway, became a patient of mine, at St. Mary's Hospital, on the 9th of December, 1851.

On the previous day, whilst cutting hardened iron with a chisel, a chip struck his left eye, blinding him instantly, and causing severe pain. He forthwith applied at St. Mary's Hospital; and Mr. Bullock, the house-surgeon, on examination, saw that the lens had in that short interval of time become opaque. Rightly judging that the injury was severe, he ordered four leeches to the neighbourhood of the eye, belladonna to the brow, and calomel, with opium, every three hours. At half-past one o'clock on the 10th, (twenty-six hours after the accident), the eye presented the following appearances.

Careful examination detected a clean incised wound in the cornea; and corresponding thereto, was a gap in the iris, midway between the margin of the pupil on the inner side and the ciliary attachment. This wound was peculiar; a flap of the membrane, about one-twelfth of an inch in length, had been cut up, and being attached by its outer border, swung to and fro like a miniature shutter. The wound in the cornea appeared to have closed instantly after the receipt of the injury, for the anterior chamber was full, and the iris retained its proper position; the lens was opaque, and there was barely perception of light; there was much congestion of the conjunctiva and sclerotic; the patient complained of intense pain; and there was hypopyon.

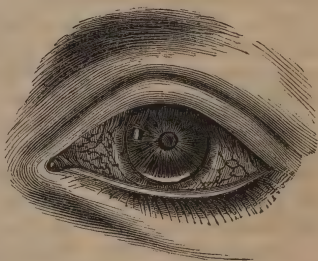


Fig. 2.

Encouraged by the result of the preceding case, and thinking it probable that the chip had lodged behind the iris in the posterior chamber, I decided to make an attempt to extract it.

The patient having been brought under the full influence of chloroform, an incision was made through the outer margin of the cornea; a fine steel probe was then introduced through the pupil into the posterior chamber, and I endeavoured, with the utmost gentleness, carefully avoiding all injury to the parts, to discover the foreign body. Thinking it was felt, a pair of fine iris forceps were used, but after searching as much as prudence would justify, without seizing the chip, and being uncertain as to its precise situation, I considered it proper to desist from any further attempt, especially as blood appeared in the anterior chamber. The lids were therefore closed with plaster, and the patient put to bed, with cold water dressings applied to the eye.

December 11th. I was to-day informed by the patient's wife, that he had led an irregular life, and had suffered from an attack of delirium tremens, from which he had only recovered so recently as the Saturday previous to the accident. There had been rather severe pain in the eye during the night, but the lids looked quiet, and free from tumefaction. He was ordered to continue the calomel and opium and cold applications as long as agreeable.

13th. The eye had become perfectly quiet and free from pain; and on opening it, I was surprised at finding it even less red than at the

time of the operation. The wound in the cornea had healed, the effused blood had nearly disappeared, and the anterior chamber contained its usual quantity of aqueous humour. Beds being in great request, he was made an out-patient.

It was too much to hope that the lull in the inflammatory symptoms would last, but the eye continued quiet for several days. His mouth had become sore, and the quantity of mercury was therefore greatly reduced.

20th. He this day presented himself complaining of pain in the temple and brow. The eye was irritable, the mouth rather freely affected, the bowels were confined. He was ordered to take a pill of colocynth and hyoscyamus; to rub mercurial ointment, with opium, into the temple at night; and to bathe the eye frequently with collyrium belladonnæ cum opiô.¹

27th. The eye was in a very congested and irritable state; the iris had undergone change of colour. Two leeches were ordered to be applied every other night to the left temple or mastoid process. The other treatment was continued. Mercurial action still marked.

30th. He complained much of sore mouth, and less of the eye, where, however, the process of disorganisation was clearly proceeding. He was ordered to take two grains of iodide of potassium in infusion of quassia twice daily, and to continue the leeches according to circumstances; the brow was to be rubbed with anodyne lotion.

January 3rd, 1852. Still much pain in the eye and temple, extending over the side of the head; bowels confined; eye congested. Three leeches were applied to the left temple immediately; an ounce of *mistura magnesiæ sulphatis cum magnesia* was ordered to be taken every morning; and one grain of extract of opium at bed-time.

6th. There was great amendment; he had been nearly free from pain during the last twenty-four hours, and the eye was less congested; it was, however, soft to the touch at the upper and outer part. He was ordered to take half a grain of extract of opium every night; and to go on with the mixture in the morning.

With slight variations and occasional leechings, this treatment was continued until the 16th of February, by which time the eye had become quiet, but the process of atrophy had made manifest progress. He was now ordered *mistura quinae*, an ounce twice a-day, and to continue the collyrium, which had been steadily used throughout with great advantage. He had resumed work, and stated that the eye had not suffered in consequence.

His condition at present is such as might be expected. The eye has diminished about one-third in size, and is soft; the iris is discoloured; the pupil distorted, contracted, and drawn downwards and inwards; the sclerotic is of a yellowish brown hue; all vision is extinguished.

CASE III. PENETRATING GUN-SHOT WOUND OF THE EYE. On the 3rd of last January, I was requested by Mr. Ansell, of Norfolk Crescent, to visit one of his patients, who had received a formidable injury to the left eye a few days previously. He was standing on the brink of the Serpentine, when a gun, loaded with partridge shot, was

¹ The formulæ mentioned are those of the Hospital Pharmacopœia.

discharged at the distance of about thirty yards from him, and a pellet, glancing from the water, struck his eye, instantly extinguishing the sight. The elevation of his head above the level of the water at the time, was about eight feet.

He was of a tall, rather corpulent frame, lived well, and bore the general aspect of plethora. Acute inflammation speedily set in, and continued with severity, notwithstanding the most judicious treatment.

His condition, when seen by me, was as follows, premising it by stating that his eyes were naturally full, and the irides grey, with a yellowish pupillary margin.

The left eye was acutely inflamed, the conjunctiva, sclerotic, and iris being all involved. Just beneath the circumference of the cornea, nearly in the mesial line, there was a ragged wound, the surface of which had a peculiar whitish appearance, as if it had been scorched. In the centre was a black spot of prolapsed pigmentum nigrum. From this point, the conjunctiva, surrounding the lower half of the cornea, was raised by chemosis. The iris was much discoloured, being of an olive green, streaked with reddish lines, and the pupil was drawn down in a linear figure to the wound. Immediately after the infliction of the injury, the anterior chamber had been filled with blood, which retained the iris in its place; but as this became absorbed, the iris prolapsed through the wound, dragging the pupil down as described, and as shown in the sketch. It may be mentioned that the patient insisted that the shot could not have penetrated the eye; but on this point I believe him to have been in error.

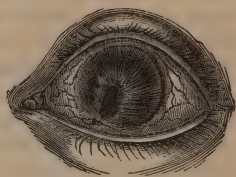


Fig. 3.

To proceed with the description of his condition on the 3rd of January:—the pupil was absolutely immovable, and there was not the faintest perception of light: there was severe pain in the ball of the eye and temple, with hemicrania aggravated at night. When the eye was turned briskly outwards, a sharp pang was felt, and a flash of light was excited. On the most careful examination, the crystalline lens seemed perfectly clear and sound.

The opinion at which I arrived, after mature consideration, was, that the shot had entered the eye, and, passing under the lens without wounding it or opening its capsule, had lodged either in the upper and posterior part of the sclerotic, or had possibly passed through that and buried itself in the orbit; but most probably the former.

The treatment agreed on by Mr. Ancell and myself, was absolute quietude, depletion by repeated applications of leeches, mercury to the extent of affecting the mouth, opiate fomentations and belladonna to the brow.

The symptoms slowly gave way; and on the 22nd of February, when the eye was again examined by me, it had undergone the following changes.

The globe was perceptibly diminished in size, and was flaccid to the touch; the sclerotic had a dingy yellowish brown hue, the iris was dull green, the pupil fixed in the condition first described, by a fringe of dark red adhesions, binding it to the capsule of the lens. The seat of

the wound was indicated by a small red spot: all pain had subsided, but there were occasional flashes of light. The sight was extinguished.

The following case, taken from the twenty-sixth volume of the *Annales d'Oculistique*, presents such remarkable features, that I am induced to quote it for the purpose of referring to it presently.

CASE IV. SEVERE INJURY TO THE EYE:—SUBSEQUENT OPERATION: RECOVERY OF SIGHT.

On May 22nd, 1850, a gunsmith, named Nicholas Borguet, presented himself to Dr. Ansiaux, at Liege, for advice. His right eye had been wounded by a fragment of iron eight days previously. This being sharp, had inflicted a severe wound in the inner portion of the sclerotic, and had left a longitudinal cicatrix about two millimètres in length.¹ The fragment had been removed from the eye at the time of the accident, and the organ was remarkably free from inflammation; there was no pain, and the only complaint made by the patient was, that he could not see. After examination, Dr. Ansiaux arrived at the conclusion that there was no foreign body in the eye, but thought it highly probable that traumatic cataract existed; and the pupil having been dilated, a capsulo-lenticular cataract was discovered on the 24th. A probe was now passed through the wound to ascertain positively whether there was any foreign body in the eye, and it easily penetrated so deep into the eye-ball, that its extremity was made to appear in the pupil as it was pushed towards the nose.

Dr. Ansiaux determined to profit by this, and introduced a cataract needle through the wound into the posterior chamber. The crystalline, being soft, was broken up, and some fragments depressed, whilst others were pushed into the anterior chamber. The needle was then withdrawn, and cold water dressing applied to the eye.

27th. Borguet presented himself without any inflammatory symptom, there being nothing more than a slight injection of the eye. The fragments of the lens and of the capsule were seen floating in the anterior chamber on the least movement of the head. The only abnormal symptom was a slight sensation of dust in the eye. Frictions with Neapolitan ointment were ordered to the forehead and temple.

29th. He continued the same. The patient would not, however, take any sort of precaution, but went about, without attempting to retain the horizontal position, strongly recommended.

30th. Borguet presented himself with a violent inflammation of the eye, which was greatly injected. Although he complained of frontal pains, there was little appearance of iritis, as the iris retained its colour. It was rather considered that this was inflammation, caused by the commencement of absorption of the fragments pushed into the anterior chamber, which already presented evidences of such an action. Eight leeches were ordered to the temple, a dose of calomel, and belladonna collyrium; the feet to be placed in a mustard bath, and strict repose to be observed. This treatment was sufficient (says the writer). At the expiration of eight days Borguet was quite well, and absorption of the fragments of the crystalline was accomplished without the least further obstacle. Vision was re-established in the eye.

REMARKS. A striking feature in two of the cases which have been related, was the marked relief of inflammatory action which followed

¹ A millimètre is 0·03937 of an inch.

the performance of the operations. *A priori*, it might have been anticipated that the additional infliction of an incised wound upon an eye already inflamed, together with the irritation inseparable from the introduction of forceps into so sensitive an organ, would have brought on acute ophthalmitis: far from it. In the first case, the most decided relief was afforded, and the previously existing inflammation rapidly subsided. In the second, although the attempt to remove the chip of iron was unsuccessful, the wound healed kindly, the pain subsided, and for several days, until in fact secondary inflammation set in, the progress of the case was highly satisfactory. And this was more remarkable from the fact of the patient having, only two days before the occurrence of the injury, been suffering from delirium tremens—the effect of excessive drinking. I have quoted Case IV. as an additional illustration of the singular immunity from destruction which some eyes seem to enjoy. How often does it happen in ophthalmic practice, that an operation for extraction of cataract, performed with the utmost skill and gentleness, and under the most favourable circumstances, is followed by destructive inflammation, whilst other eyes will bear with impunity an amount of violence scarcely credible!¹ In the case mentioned by Dr. Ansiaux, for instance, we find an extensive cut through the sclerotic and choroid, opening the capsule of the lens, and yet failing to excite dangerous inflammation. Eight days afterwards—a period at which the eye might fairly be considered prone to inflammation—a probe was thrust into the eye behind the iris, so far as to be visible in the pupil; then a needle was introduced, and the lens broken up, a proceeding necessarily attended with violence. The fragments of the lens, which might be regarded in the light of foreign bodies, were left floating or resting in the anterior chamber. Yet, in spite of all these provocations and the subsequent carelessness of the patient, six days passed over without inflammation; and, to crown all, when at length it did set in, it was easily subdued, and vision was restored to the eye.

Inflammatory symptoms, excited by a foreign body in the eye, are doubtless efforts on the part of nature to expel it; or, failing that, so to enclose and imbed it in lymph, as to render it harmless. There have been instances mentioned by Ammon,² Salomon,³ Grüllich,⁴ and Mackenzie,⁵ where foreign bodies, lying in the anterior chamber, have been in this manner encysted, and have ceased to be productive of irritation. We may fairly ascribe the absence of acute inflammation after such operations as have been described, to the circumstance that art has achieved the object for which nature was vainly striving, and that the relief afforded, more than counterbalanced the injury inflicted.

When a foreign body has lodged in the eye, and cannot be ex-

¹ The ophthalmic practice of our forefathers was in many respects so rough, that it is a marvel that any eyes survived it. Heister recommends, as a means of removing foreign bodies, “to blow some levigated pearl or crabs’ claws through a quill under the eyelid, that as these are washed out by the tears, they may also take away the foreign body with them.” Powdered glass was used by others for the same purpose. Truly this was carrying into practice the recommendation of the wit to the man who had swallowed a fly, “swallow a spider to catch it.”

² Gräfe and Walther's Journal, vol. xiii, p. 418.

³ Ibid., vol. xiv, p. 457.

⁴ Ammon's Zeitschrift für die Ophthalmologie, vol i, p. 336.

⁵ Treatise on Diseases of the Eye, p. 336.

tracted, atrophy of the globe is a common result. The active symptoms—of which neuralgia is one of the most distressing and lingering—gradually subside. The iris remains permanently discoloured, and the fibres indistinct; the pupil, distorted and motionless, is bound to the surface of the capsule of the lens by dark adhesions; the lens may be converted into an osseous cataract, or, if the capsule has been opened, may undergo absorption; the sclerotic, thinned in texture, permits the dark hue of the choroid to be seen imparting to it a dusky tint, whilst the surface of the soft and shrunken globe is traversed by a few large tortuous purple vessels. Such, if the eye be not in the first instance destroyed by suppuration, are the general characteristics; and the appearance of the iris is one test by which our judgment may be guided as to the presence of the foreign body in the eye, for patients often declare that it is impossible that it *can* be in the eye. Iritis, excited by a simple wound, may be expected to subside, and the iris to recover its natural colour, under the use of mercury. Not so when a foreign body has lodged in the eye. A blue or grey iris then becomes a dingy green, and a brown iris acquires a muddy reddish colour, doubtless from the interstitial deposit, to which the change of colour is due, not being removed by absorption. It has been said, that a yellowish, more or less elevated swelling of the membrane, indicates the locality of the foreign body. It may be so when it is in contact with the iris; but I have not observed it in other cases, though, when the substance is in the posterior chamber, the pupil is often drawn in an angular form towards it.

During the secondary inflammation, arising under the circumstances described, the repeated application of two or three leeches to the temple or mastoid process is of essential service. A larger number are not desirable, the object being simply to unload the vessels, without exhausting the system.

I have on several occasions been consulted as to the propriety of attempting to restore sight to an eye damaged by accident. The patient has probably perception of light, and clings to the hope that he may regain some useful vision, by submitting to an operation. There are two points to be borne in mind, in reference to a question of this description. Is it possible to improve the sight? is it desirable?

There will probably be two proceedings open for consideration, namely, the removal of the opaque lens, and the formation of an artificial pupil. If the injury has been comparatively slight, and the eye is generally healthy, though dark from traumatic cataract, sight would be restored by removing the lens from the field of vision. If there has been iritis, which has bound down the pupil to the capsule of the lens, but the globe remains firm, and the retina sound, artificial pupil, with or without destruction of the lens, may offer a fair prospect of restoring sight; but if there be atrophy of the globe, fluid vitreous humour, a discoloured and paralysed iris, there is certainly serious disorganisation, and an operation would be of little avail.

Then, as to the propriety of operative interference:—if the patient has one sound and strong eye, the other being blind, it becomes a serious question, whether the restoration of imperfect sight to the latter may not be a positive disadvantage. An artificial pupil could scarcely be made perfectly in the centre: consequently the axes of the

two eyes would not correspond, and double vision would exist. If the lens were removed, the sight of the two eyes would materially differ, and perplexing confusion be caused. In more than one instance, I have been actually requested by persons—generally artizans, who have received an injury impairing, but not extinguishing, the sight of one of their eyes—to ‘put the eye out’ (as they expressed it), so annoying and trying was the confusion it caused. So persons who have cataract partially formed in one eye only, acquire a habit of closing that eye when reading, as it interferes with the other. It is our duty, therefore, before undertaking an operation, to satisfy ourselves that we shall leave the vision of the patient better, and not worse than we found it. But when from any cause the sight of the uninjured eye has become imperfect, and threatens to depart, then a great boon may be conferred upon the individual by calling into use, by well-applied skill, an eye which had been previously useless.

Chloroform is of essential service in facilitating operations on inflamed eyes. Without its aid, indeed, they could not be satisfactorily performed; for, when the eye is in this condition, its sensibility to light and to touch is so increased, and the spasmodic action of the orbicularis palpebrarum and muscles of the globe is so violent, that force is required to keep the lids open, and the eye must be held steady by instruments—proceedings highly objectionable. All this is obviated by the use of chloroform; and, by attention to two points, it may be used with perfect confidence. First, it should be administered on an empty stomach, as vomiting then very seldom arises. Secondly, as soon as the operation is concluded, the lids should be secured by a strip of adhesive plaister, extending from the brow to the cheek. This prevents any disturbance of the wound during the return to consciousness; and, by supporting the lids and eye, if vomiting should occur, prevents expulsion of the contents of the globe. Sichel’s canula-forceps are most useful in extracting foreign bodies from the interior of the eye: indeed, if the body is not too large for their grasp, I should never use any other description. For the preliminary corneal incision, Jäger’s double-edged, spear-pointed knife is the best instrument with which I am acquainted.

There is an affection which the patients whose cases have been related have hitherto escaped (I can speak as to three of them, at least), which is occasionally a sequence of foreign bodies in the eye-ball. I allude to that formidable inflammation of the uninjured eye, called by Dr. Mackenzie *Ophthalmia Sympathetica*, on which some valuable remarks are contained at p. 302 of Dr. Jacob’s *Treatise on the Inflammations of the Eyeball*. It is an inflammation which involves the various tissues of the eye, coming on five or six weeks after the infliction of the injury on the other eye, just when the patient is congratulating himself on having escaped from the trammels of an irksome confinement. It occurs most frequently in feeble cachectic habits, and in constitutions prematurely worn out by dissipation; and, for this reason, it is unfortunately very little amenable to treatment. To improve the general health, and give vigour to the system, is the chief indication; but a guarded prognosis should always be pronounced, as it is a tedious and intractable disease.

SOME PRACTICAL REMARKS ON GENERAL BLOOD-LETTING.

By ROBERT HUNTER SEMPLE, M.D., Medical Officer to the Parochial
Infirmary of St. Mary, Islington.

(Concluded from p. 146.)

IN my former communication upon this subject, I considered the cases in which general blood-letting is, in my opinion, altogether improper; and other cases in which, although it may not be altogether improper, yet its use may be superseded by other therapeutical agents. The substitutes for blood-letting must of course be sought for in those measures which reduce the force of the heart and arteries, which attenuate the consistence of the blood, or which diminish its sources of nutriment. Among these remedies, the tartar emetic holds a very prominent place; for its direct operation is to depress the circulating system, and thereby to diminish inflammation; while the vomiting which it generally occasions, acts like a shock to the system, and diverts the current of morbid action *in limine*. In inflammatory diseases of the respiratory organs, the tartar emetic is pre-eminently efficacious; and I have no doubt that the timely use of this remedy has often checked an incipient attack of a most severe character, and has rendered other measures unnecessary. Digitalis, by its sedative action on the heart, has a somewhat similar tendency; but this drug is by no means so much to be depended upon as tartar emetic. Purgatives, both of the drastic and of the laxative kinds, are also valuable instruments in warding off inflammatory and congestive attacks, and sometimes in arresting them when they have commenced. Calomel, in particular, often acts like a charm; and in certain inflammatory attacks, as may often be seen, especially in children, a dose of this drug calms down the erethism, and appears to act like a direct sedative to the system, and the patient falls asleep as if under the influence of opium. In congestive diseases of the head, the stronger kinds of purgatives, such as scammony, jalap, and colocynth, are undoubtedly most valuable means of cure, by acting powerfully upon the alimentary canal, and diverting the morbid action from the superior parts of the body; and the saline purgatives, especially the sulphate of magnesia, and the tartrate and bitartrate of potash, are hardly less useful, by causing a copious draining of fluid from the mucous follicles of the small intestines. The immense influence of diet, also, in the treatment of inflammatory and congestive diseases, ought never to be overlooked; for if the supplies which nourish the blood are withdrawn, it is clear that the progress of inflammatory and congestive attacks must be materially controlled. Indeed, if there be any truth in the so-called cures performed by the homœopathic practitioners, the results, in my opinion, are entirely to be attributed to the system of dieting adopted by the professors of this form of quackery. The researches of chemistry also enable us to select, as articles of diet, those substances which are least likely, in inflammation and congestion, to increase the consistence of the circulating fluid; and by removing the azotised or nitrogenous kinds of food, and substituting the simply carbonaceous, we possess a powerful means of preventing the formation

of superabundant fibrine, and of diminishing the number of the corpuscles.

III. It remains for me now to consider the cases in which blood-letting is absolutely and imperatively necessary. In the foregoing remarks, I wish it by no means to be understood that I am an enemy to the use of the lancet; on the contrary, I believe it to be one of the most powerful weapons at our disposal for the cure of disease; and, in certain cases, it must be used boldly, freely, and decidedly. I argue only that it must be used with discrimination; that the lancet is like a two-edged sword, of mighty power for good or for evil, and that it must be wielded with caution and discretion, as to the proper cases, and as to the proper times for its employment. But when the cases have been selected, and the necessity for blood-letting is fully established, then let a decided impression be made upon the system; and in the presence of imminent danger to some important organ, it is better to take a copious amount of blood at once, than to trust to small blood-lettings at repeated intervals, which plan only exhausts the powers of the patient, without making any impression upon the disease.

CASE VII. A young gentleman, about twenty-two years of age, rather reserved in his manners, was observed, in the year 1846, to be more than usually depressed: he became indifferent to his duties, careless of his person, and negligent of his nearest relations. In order to amuse him, he was taken one day in summer down the river in a steam-boat, and, while his father and brother had their attention momentarily diverted from him, he threw himself overboard. The tide, however, was running out at the time, and the water was low; he was therefore soon taken out of the water and conveyed home, and he experienced no injury from the immersion. Soon after this time, I was called in to see him, and found him in a low and desponding state, and subject to hypochondriacal illusions; he insisted that he had had gonorrhœa, for instance, and that he was now labouring under disease of the prostate gland; but for neither of these statements was there any foundation. He had no pain in the head, nor did he complain of any other bodily illness, except that just mentioned; his appetite was good; he did not sleep well at night, but disturbed the inmates of his house with strange noises; he went out every day, but would not go to his employment; he said he was haunted by the devil. After trying moral means for some time without any avail, and finding that the pulse was full and strong, and the head rather warm, I determined on bleeding him, which I accordingly did, to the extent of twenty ounces. He did not faint, nor did he feel much better. He was also ordered drastic purgatives to be taken every day. In about six weeks, I found that he was not better; he still had bad nights, and supposed himself to be haunted; his appetite was always good; his pulse strong and full; his head warm. I determined on bleeding him again, and resolved not to limit the quantity, but to take as much as I could. I therefore made him sit up in bed, and drew from him about thirty-five ounces of blood, after which he became faint, but did not actually faint away. By this measure he was somewhat reduced, and was obliged to keep his bed for some days; but the effect was decidedly beneficial; his pulse was reduced;

he became more quiet; and, in a very short time, he was able to walk about as usual. He became, however, indolent and intractable; and, although he manifested no longer any suicidal tendency, and ceased to complain of his imaginary diseases, yet he was unmanageable at home, owing to the want of the means of moral control on the part of his relations; and he was therefore sent for a short time to a lunatic asylum. There he was very quiet; his health was good; but he was still subject to delusions. His pulse was now moderate, and his head cool; and after some time his delusions wore away, he returned to his employment, and he is now perfectly well. The whole duration of his illness was about eighteen months.

In this case, I have no doubt that the abstraction of blood was imperatively called for: and it must be remembered, that it was not adopted until all other means had failed; that the strong, full pulse, and heat of head, justified its adoption; that the restlessness and incoherence were materially relieved by the copious abstraction of blood; and that the suicidal tendency, and the fear of imaginary diseases, subsided after the venesection. I believe that this was a case of sub-acute inflammation of the membranes of the brain, and was one in which bleeding was not only useful, but imperatively necessary.

CASE VIII. J. S., aged 33, was brought into the Islington Infirmary, July 20, 1846, in a state of furious delirium. His speech was incoherent; his tongue white and furred: he was so violent, as to require the restraint of a strait-jacket. (I ought to mention that, much as I admire the system of non-restraint, and the adoption of padded rooms, yet as these latter conveniences are not to be found at many infirmaries, or in private houses, I prefer the old habit of applying a strait-jacket, to the abandonment of an insane and violent patient to the guidance of his own impulses, and the consequent mischief which must ensue. I always, however, apply restraint with great caution; never allow any violence or injury to be done to the patient; and remove the restraint the moment that it can be done with safety.)

July 21. He was much better; spoke rationally. The strait-jacket was removed. He was ordered to take a pill containing one drop of croton oil, and a powder consisting of five grains of calomel and fifteen of jalap. In the evening, he became again delirious, and so violent, that three men were unable to hold him; the strait-jacket was therefore again applied. Bowels very freely opened.

July 22. He was quiet and sleepy; the tongue was furred; pulse 104, full; head hot. He was bled to twenty ounces, and was ordered to take a mixture of one-third of a grain of tartar emetic, in an ounce and a half of aperient mixture, every four hours.

July 23. He had passed a restless night, but this morning he was rational. His tongue was white and furred; and he had a tremulous motion in all his limbs.

July 25. The tongue was rather cleaner; the pulse quick. He said he wished to speak to me by myself. I therefore sent the attendants out of the room, and he then told me that he was being murdered in the infirmary, and wanted to converse with some person outside the gates. He talked very incoherently. He gradually, however, became better, and in a few days was so much recovered, that he was sent away to his own home.

I never knew any farther particulars of this man's case, and do not know anything of his previous history; but I consider his disease to have been inflammation of the membranes of the brain; and that the blood-letting, in conjunction with the other measures, was decidedly beneficial.

CASE IX. J. H. T., aged 36, was brought to the Islington Infirmary, August 17, 1846, for the purpose of being sent to a lunatic asylum. He was a druggist's porter, and had been very much frightened, by being exposed to a severe thunderstorm. After that time, he became inattentive to his work, although before, he had borne a very good character for diligence and activity. He became insane upon religious subjects; felt that he was doomed to perdition; and thought he was haunted by the devil. Under ordinary circumstances, I should have sent a person exhibiting such a condition, at once to an asylum: but I found that his head was hot; his pulse 100, full and strong; and he had great thirst. I therefore bled him to sixteen ounces, and ordered him a powder containing five grains of calomel and fifteen of jalap, to be taken immediately, and a saline purgative every four hours. The next day (Aug. 18) he still talked very incoherently; the head was still hot; tongue clean; bowels opened once; some thirst; pulse 132, full. I bled him again to twenty ounces. He did not faint, but became more tranquil and cooler after the bleeding; and in a few days he was sent to Hanwell, as the confusion of his intellect still continued, and his friends were unable to take care of him. At the asylum, however, he gradually recovered, without any return of the acute symptoms; and in about four months he was discharged, cured. He has been quite well ever since, and is now (Feb. 1852) in the same employment as that in which his seizure by illness occurred.

In the next case, although the result was fatal, I consider copious venesection to have been a very proper measure, and that the *post-mortem* examination confirms this opinion.

CASE X. C. J., a person who was afterwards ascertained to be a gentleman of some property, was picked up insensible on the Highgate road by the police, who considered him to be intoxicated, but conveyed him to the house of a medical gentleman at Islington, on the 28th of July, 1847. At that time his face was found to be much flushed, and the eyes were wild and inflamed; he would not answer any questions. He was sent to the Islington Infirmary; and when admitted, his pulse was full and strong, and the pupils were rather dilated. When questions were put to him, he merely repeated them. I saw him soon after, when he presented the following symptoms:—he was lying on his back; his countenance was flushed; the eyes were bloodshot, the pupils were fixed between contraction and dilatation; the tongue white, and covered with a creamy fur; the bowels had not been opened since his admission; the pulse was 120, full, hard, and strong; the head burning hot; the skin moist. He was bled to thirty-two ounces; the hair was shaven off the scalp, ice was applied to the shaven surface, and three drops of croton oil were poured upon his tongue.

July 29. He was worse; pulse 160; respirations 56 in a minute, breathing laborious; eyes still bloodshot; pupils the same as yesterday. The blood drawn yesterday was buffed and cupped. When spoken to, he seemed incapable of answering. As the croton oil did not operate, a

clyster was administered, which brought away a copious evacuation. A blister was directed to be applied to the nape of the neck. He continued to get worse all day, until five o'clock P.M., when he expired.

POST-MORTEM EXAMINATION TWENTY-FOUR HOURS AFTER DEATH. Nothing particular was observed on the surface of the body.

Head. There was a considerable quantity of blood effused between the scalp and the skull. The dura mater was congested. The arachnoid membrane presented a whitish, opalescent appearance, and was thickened; the pia mater was more than usually vascular; there was a large quantity of serous fluid between the layers of the arachnoid and in the ventricles. The substance of the brain, when sliced, exhibited a great number of bloody points.

The other organs of the body were carefully examined, but exhibited no remarkable traces of disease. The stomach was removed, and the nature of its contents investigated: its mucous membrane was quite healthy, and its cavity contained only about half an ounce of an inodorous fluid.

I have very little doubt that the four cases just recorded were of the same character; and I have, therefore, classed them together. In all of them, there appears to have been an inflammatory condition of the membranes of the brain and of the surface of the organ; and I believe that in all of them copious blood-letting was decidedly indicated. In the last case, it is, I think, probable that if blood-letting could have been practised at an earlier period, the result might have been favourable; but I make this statement with caution, because I am aware of the very dangerous, and often rapidly fatal, nature of meningeal inflammation.

The cases which follow are instances of cerebral congestion; which leads, if it be not arrested, to cerebral hæmorrhage and destruction of life, but which is decidedly relieved by copious and early blood-letting.

CASE XI. J. T., aged 47, a porter, a stout, muscular, and plethoric man, with a short neck, fell down suddenly in the High-street of Islington, on June 8, 1842, and was found by the police in a state of insensibility. He was seen shortly after the attack, and found to be in an apoplectic fit. The pulse was full, hard, and strong, 120 in a minute; there were total insensibility and stertorous breathing, livid face, contracted and immoveable pupils. He was removed to the Infirmary at Islington, and immediately on his admission was bled to thirty-two ounces; after which he became rather better, and indicated by his manner a return to consciousness. He was ordered to take immediately two drops of croton oil, and a saline purgative draught every four hours.

June 9. He appeared better, and was now sensible. There was an ecchymosis of the left eye, caused by the fall which he experienced when seized with the fit. The bowels had been freely opened. To continue the purgative draughts.

June 10. He expressed himself as feeling much better: and left his bed, and walked about. He was discharged cured, at his own request, on the same day.

CASE XII. M. R., aged 56, a woman of rather weak intellect, who had long been an inmate of the workhouse at Islington, dropped down suddenly and became insensible on the 7th of December, 1851. She

was seen about three-quarters of an hour afterwards, when she was found lying in bed, quite insensible, and foaming at the mouth; respiration was stertorous, and during respiration the cheeks were flapped outwards. Eyes open; pupils contracted much, and quite insensible to the action of light. Pulse rather frequent, and full. The arms and muscles of the face were occasionally convulsed, but not violently. When not convulsed, the limbs lay apparently lifeless; and if raised, they immediately fell on the support being withdrawn. The countenance was of a deathly paleness, with a fixed, glassy, and vacant stare of the eyes. She was bled from the arm to twenty ounces. After the bleeding, the pulse lost its fulness and power, the eyelids closed, and she became excessively weak, so that it was deemed advisable to administer a little stimulant of *spiritus ammoniæ aromaticus*.

Dec. 8. There was very great improvement; the nurse said she changed for the better about three hours after the bleeding; her appearance had quite altered, and she answered questions rationally. She can swallow with ease; pupils still contracted; bowels have been open once since the attack. Ordered a blister to be applied to the nape of the neck, and a saline purgative draught to be taken every four hours.

Dec. 9. Much better to-day; pulse 88, tongue clean. She is quite rational.

This case shows also the great benefit which often follows a copious bloodletting in cases of cerebral congestion.

CASE XIII. H. G., a lady, about 55 years of age, of great accomplishments and very mild and amiable disposition, had suffered for many years from a variety of nervous and hysterical symptoms. She habitually slept but little at night, was subject to giddiness, indigestion, flatulence, and acidity; she often passed a very large quantity of limpid urine. Her pulse was always weak, her tongue generally foul, and no trace of organic disease could anywhere be discovered; she suffered often from headache. There was no disorder of the uterine organs, but she ceased to menstruate at about forty-eight years of age, and her symptoms had become worse after that change took place. She had consulted a great variety of medical practitioners in London for these symptoms, and their opinions and their treatment nearly all seemed to coincide upon the nature of the case, which was considered to be a form of hysterical dyspepsia. The prescriptions written for her consisted of mild purgatives, antispasmodics, carminatives, and tonics, and only one of her medical advisers recommended the abstraction of blood, by the adoption of which measure she became decidedly worse, and did not recur to it. After a full consideration of the case, I came to the conclusion that the case was one of purely nervous disease, for although she often had headache and giddiness, her head was not hot, and her pulse was weak. I therefore recommended very mild purgatives to be taken occasionally, together with the ammoniated tincture of valerian, and paid great attention to the diet, recommending a nutritious but not stimulating kind of food, with the occasional, but very moderate, use of wine, and gentle, regular exercise in the open air every day. These measures were attended with considerable benefit; but, as usually happens in what are called nervous affections, it could not be said that the lady was cured: but she was not considered to be seriously ill, and went into society as usual. But on the

27th of December, 1845, I was requested to come and see her immediately, as she had been taken dangerously ill, and was supposed to be suffering from a paralytic attack. I learned that while she was sitting up in the forenoon, working with her needle, she suddenly felt a numbness in the fingers of her right hand, and was unable to hold her needle; her speech was also affected, and she suffered from giddiness. Knowing her previous nervous attacks, I was inclined to think at first that this was one of their varieties; but upon visiting her, I found that the pulse was rapid and full, 120 in the minute, and her head was hot; the mouth was also slightly distorted, and the speech sensibly affected. I now felt that the case presented features of peculiar difficulty, for although in all her previous illness I believed that bloodletting was not only unnecessary but injurious; yet as I now felt convinced that congestion of the cerebral vessels actually existed, I resolved to take blood from the arm. This I accordingly did to the extent of sixteen ounces, and prescribed some purgative medicine. The blood drawn was not buffed or cupped. The next day I had the gratification to find that the bleeding had been decidedly beneficial; the head was cooler, and she had passed a tranquil night. I directed her to be put upon very low diet, and to take occasionally some purgative medicine. I also recommended strict rest, the head to be kept cool with vinegar and water, and a blister to be applied to the nape of the neck: this blister was kept open for some time. I also ordered calomel to be taken, in doses of one grain, twice a day for several days, until her mouth became sore,—a measure which I believe to be very efficacious in relieving cerebral congestion. By these means this lady entirely recovered, and at the present time is in very good health; and although more than six years have elapsed since the seizure, she has had no return of the cerebral symptoms. I need hardly say that a strict watch has been, and still is, kept upon her diet, and that she takes regular exercise. I consider this case to be one of the deepest importance, as showing the value of timely and seasonable depletion: had it been resorted to at any other time, it would probably have been injurious; but being adopted at the very onset of cerebral congestion, it seems at once to have produced a salutary shock upon the system, and to have checked the progress of morbid action.

The next case was fatal in its results; but the adoption of copious bloodletting was undoubtedly demanded.

CASE XIV. R. U., a gentleman of great literary attainments, and much devoted to study, about 65 years of age, was attended by me in September 1845, for a slight dyspeptic attack, to which he was subject. I treated him with purgatives, antacids, and tonics, and he was apparently doing well; but after leaving him one morning in a comparatively improving state, I was called to him in the afternoon, as I was informed that he was dangerously ill. I found him sitting up, but evidently heavy and stupid; he had vomited very much; his face was red and his head was hot; his pulse, which in the morning had been regular and moderate, was now full, hard, and strong. He was evidently fast sinking into a state of insensibility. I immediately bled him to twenty ounces; he did not appear to improve; the blood was not buffed or cupped. A blister was applied to the nape of the neck; vinegar and water were assiduously applied to the head, and mustard

poultices to the calves of the legs and soles of the feet; but he never rallied: he became worse and worse, and died during the night, about twelve hours from the seizure.

The *post-mortem examination* showed that the viscera of the thorax and the abdomen were quite healthy, though congested with blood; the scalp, when turned back from the skull, exhibited great vascular fulness; and the membranes of the brain, and the vessels of the brain itself, were turgid with dark, fluid blood. No rupture or laceration of any vessels, and no effusion of blood, or of serum, could anywhere be discovered, and there was no appearance of softening in any part of the brain.

I certainly anticipated that I should find effusion of blood in some part of the brain, but I was deceived; the case was one of simple congestive apoplexy. The turgid condition of all the organs, and the fulness of the cerebral vessels, prove most satisfactorily that bleeding, although unfortunately of no avail in this case, was a very suitable measure; and if it had been neglected, the omission, in my opinion, would have been highly culpable.

CASE XV. W. D., aged 70, who had long been suffering from chronic bronchitis, was seized with a fit on the evening of January 4, 1852, at the Islington Infirmary. During the fit, he is said to have struggled and foamed at the mouth, and afterwards to have been quite motionless, the fit lasting about five minutes. He was seen soon after by Mr. Humble, the resident medical officer, when his replies to questions were incoherent: his face was pale, the eyelids were closed, and he resisted their being opened. I saw him very soon after on the same evening, when I found him in a state of partial insensibility; the head, however, was cool; the pupils were contracted, and were insensible to the action of light; tongue clean; pulse 80, full and labouring. The action of the heart was normal; sonorous and sibilant râles were heard all over the chest: there was no distinct paralysis. I considered the case to be one of cerebral congestion, accompanied by softening of the brain; and although I was aware of the condition in which the man was placed, I thought that the full, labouring pulse, justified depletion, and would perhaps avert a fatal attack of cerebral hæmorrhage. I accordingly directed him to be bled to twelve ounces, to have two drops of croton oil administered to him, and a blister to be applied to the back of the neck.

On seeing him the next morning, the beneficial effects of the bleeding were manifest, for it had evidently removed some pressure from the brain: he had recovered his sensibility, was quite rational, and, indeed, was better in all respects. I did not anticipate a perfect cure in this case, owing to his age, and the long-standing attack of chronic bronchitis; but I consider that the *post-mortem examination*, which was subsequently made, verified the prognosis, and justified the depletion.

Although very much relieved from the cerebral symptoms, he suffered much from cough and difficulty of breathing; and after various fluctuations in his symptoms, and after having experienced one or two attacks of rigidity in his right arm, he died on the 18th of February, 1852.

Post-mortem Examination. The scalp was natural. The skull was very thick, and the inner table was as tough and thick as the external. There were strong adhesions between the dura mater and the inner table of the skull; so strong, indeed, that it was impossible to separate them without the use of the scalpel. The arachnoid membrane and pia mater were very vascular, thickened, and presented a pearly appearance, owing to effusion beneath the arachnoid. There was an irregular patch of redness over the surface of the left hemisphere, and other patches of redness were scattered at intervals over other parts of the surface. This redness was entirely confined to the membranes; for, on removing them, the cerebral surface beneath was of its natural colour. A great quantity of serous fluid escaped on making an aperture in the arachnoid membrane. On slicing the brain on a level with the corpus callosum, the roof of the ventricles gave a distinct feeling and appearance of fluctuation, and on opening the ventricles, a large quantity of thin, colourless, transparent fluid, amounting to about three ounces, was found filling the cavities, the fluid of one ventricle being continuous with that of the other through the foramen of Monro. The structure of the brain itself was generally healthy, but the fornix was distinctly softened. On the superior surface of the cerebellum, on the right side, there was a mass of grey softening, which was quite in the liquid state; but below this softened mass, which was of about the size of a small nut, the structure of the cerebellum was natural.

On examining the chest, distinct traces were found of chronic bronchitis, as indicated by thickening and redness of the bronchial tubes, and the existence in them of muco-purulent matter. An appearance presented itself which was not at all expected, namely, an abundant deposit of hard tuberculous matter, forming a large tumour, filling up the concavity below the arch of the aorta, and also occupying the upper third of the right lung. This deposit was of scirrhus hardness; but although it was examined microscopically by Dr. Ballard, no trace of cancerous cells could be discovered. It was a very dense form of tubercular deposit.

The last case was one of great difficulty during life at the time of the cerebral attack, and I hesitated for some time, and deliberated much, before I adopted the measure of abstracting blood; but I am convinced that the practice was correct, for although the man did not ultimately recover (an event which I never anticipated), yet the bleeding certainly removed pressure from the brain by relieving the vascular congestion, which the *post-mortem* examination afterwards revealed; and averted, I think, the fatal catastrophe for six weeks.

The length to which this paper has already run, does not enable me to adduce other cases, where the timely abstraction of blood has been attended with the most favourable results; and I have selected the above cases of cerebral diseases, because I think that bleeding is most remarkably called for in inflammatory and congestive diseases of the brain. For other remedies, which are with safety and propriety applicable to diseases in other parts, are quite inadmissible in cerebral disease; tartar emetic, for instance, would be highly improper in a threatened attack of inflammation of the brain, or of apoplexy; and although purgatives, and especially the drastic kinds of them, are

exceedingly useful in many head affections, yet their operation is by no means sufficiently energetic to diminish vascular turgidity within the cranium. It is, therefore, in cases of inflammation of the brain, or its membranes, or where congestion of the brain is either threatened, or is already in existence, that full and speedy blood-letting is of paramount importance, and is equalled in efficacy by no other remedy. But even in cerebral affections, the use of the lancet requires the utmost caution in the selection of cases, for in many diseases of the brain, bleeding is decidedly injurious; thus in mere *pain* in the head, however violent, bleeding would most probably only aggravate the symptoms: in delirium tremens, to bleed would be to commit a fatal mistake; in softening of the brain, bleeding is also generally improper, and it is only in cases, which are by no means unfrequent, of the combination of softening with cerebral congestion or effusion, where the abstraction of blood in moderate quantity, may, as in Case xv., be attended with immediate relief of the urgent symptoms. I believe that in cerebral diseases the true guide to blood-letting is the state of the pulse, and if that be found full, strong, or hard, with decided symptoms of head affection, blood-letting may be always resorted to, not only without danger, but with decided advantage. The quantity to be drawn must of course depend upon age, sex, habit, and idiosyncrasy; and although it is quite safe sometimes to make the patient stand up, and draw blood in a full stream till he faints, yet where there is any suspected complication with softening of the brain, the lancet must be used with moderation.

In certain other cases, the adoption of blood-letting is imperatively called for, as where, in a plethoric subject, the eye, for instance, is threatened with inflammatory destruction; or where, with a full, strong pulse, the patient is suffering from epistaxis; or where inflammation of one or both lungs has become fully established; or where, notwithstanding the smallness of the pulse, peritoneal inflammation has been set up.

In such cases, and in many others, I have no wish to advocate the careless and criminal practice of leaving nature to cure the disease; on the contrary, the practice, under such circumstances, should be bold and energetic, and by adopting it, we may often save a valuable organ from destruction, and perhaps preserve the life of the patient. But in times like the present, of general scepticism in therapeutics, it is by no means unjustifiable to review our whole course of practice; nor is it dishonourable to be taught even by an enemy. Contemptible as are the different forms of quackery by which the public is deceived, and the profession injured, some good may possibly arise out of so much evil; and if medical men be led to additional caution in the selection of cases, and the adoption of remedial measures, and if a more philosophical tone be imparted to our investigations, then, even the mummeries of homeopathy, and the atrocities of hydropathy, may, perchance, not have been perpetrated altogether in vain.

8, Torrington Square, March 1852.

ON THE CAUSE AND PREVENTION OF DEATH FROM CHLOROFORM.

By JOHN SNOW, M.D.

CHLOROFORM, like other medicines which relieve or prevent pain, is capable of causing death, if its action be carried too far. When a certain quantity of it is present in the blood, sensibility is so far diminished, that surgical operations may be performed without pain; whilst a certain additional quantity has the effect of diminishing sensibility to such an extent, that the necessity for breathing is no longer felt, the respiratory movements cease, and the circulation of the blood is by this means soon arrested. In some cases, as we shall see, sufficient chloroform is absorbed to arrest the action of the heart by its own influence.

When animals, such as dogs, cats, rabbits, and guinea-pigs, are made to respire air containing from three to five per cent. of chloroform, till they cease to breathe—a process which generally occupies ten or fifteen minutes—the heart can be heard to beat, by means of the stethoscope applied to the chest, for a minute or longer after the breathing has ceased; and it often happens that, about the time when the heart's action fails, the animal makes two or three gasping inspirations, that have the effect of restoring the contractions of the heart, which recommence with great rapidity. If the animal has been withdrawn from the chloroform, these gasping inspirations have generally the effect, when they occur, of thoroughly reestablishing both the breathing and circulation; but, if it is made to breathe the chloroform during these gasps, the action of the heart is again arrested, and the natural breathing does not return.

When the same kind of animals are made to respire air charged with upwards of eight per cent. of vapour of chloroform, death occurs with great rapidity, and in a different manner from that just described. The action of the heart ceases about the same moment as the breathing—in three instances, indeed, it has ceased before the breathing; and, although gasping inspirations have several times occurred after the chloroform was withdrawn, it has rarely happened that these inspirations have had the effect of restoring the heart's action.

I have observed the manner in which the breathing and circulation ceased in twenty-nine instances, with the stethoscope applied to the chest of the animal, when the quantity of chloroform in the air they breathed was known; but the following three experiments will suffice to show the different ways in which death occurs under the influence of chloroform, according as its vapour is more or less diluted with air. I may here remark, that the results of the experiments mentioned in this paper, can be applied with great propriety to elucidate what occurs in the human subject, both on account of the exact similarity between the effects of chloroform on the lower mammalia and on man, when confined within safe bounds, and also from the close resemblance of the phenomena caused by the less diluted vapour, to what has been described as occurring in the accidents to patients.

EXPERIMENT I. A young but full-grown cat was placed in a glass jar, of the capacity of 1,600 cubic inches, and a fluid drachm of chloroform was introduced, by a portion at a time, through a tube in the cover of the jar. As twenty-five minims of chloroform produce twenty-six cubic inches of vapour, the atmosphere which the cat had to breathe contained nearly four per cent. of vapour, and the jar was moved about, to ensure the uniform mixture of the vapour with the air. In five minutes, the cat became insensible, and lay breathing naturally. In about ten minutes more, the breathing became very feeble, and it ceased altogether in about another minute, or sixteen minutes after the cat commenced to breathe the chloroform. It was immediately taken out and laid on a table, and the stethoscope was applied to the chest. The heart could be heard beating distinctly at first, but the pulsations became slower and feebler, and in about a minute they could be no longer heard. Just at this time, however, the cat took a gasping inspiration, and immediately the heart was heard to beat in a most rapid manner. The gasps were repeated, and the action of the heart became less rapid, but stronger. In a little time, both the breathing and the action of the heart became natural, the cat remaining, however, insensible for some minutes.

EXPERIMENT II. A cat, about the same size as the last, was put into the same jar, and the same quantity of chloroform was introduced. It was removed at the end of four minutes, when it was so far insensible as to offer no resistance. Being laid on the table, it was made to breathe air charged with ten per cent. of vapour of chloroform from a bladder. Twenty-five minims of chloroform were put into the bladder, which held 250 cubic inches, and it was filled up with the bellows. A portion of another bladder, which was attached to the stop-cock, was made to surround the head of the cat, and it consequently breathed to and from the bladder. In half a minute it was quite insensible: in about half a minute more the breathing became difficult, and the sounds of the heart less distinct. The breathing became gradually slower, and ceased altogether between three and four minutes after the respiration from the bladder commenced. The sounds of the heart were rather frequent, and scarcely audible, just before the breathing ceased, and they could not be heard afterwards. The chest was opened three-quarters of an hour after death. The lungs were of a pale red colour, everywhere permeated with air; and a small quantity of fluid blood flowed from them on making an incision. The right cavities of the heart were quite full of blood, and the left cavities contained a small quantity.

EXPERIMENT III. A cat was made insensible in the same manner as the two previous ones. As it made strong efforts to get out of the jar, and consequently breathed more deeply, the chloroform took effect sooner; and it was removed and laid on the table, in a passive state, at the end of two minutes and a half. The respiration and sounds of the heart were quite natural. The nose of the animal was placed in the mouth of a metal vessel, lined with bibulous paper, and used as a chloroform inhaler. The inhaler contained chloroform, and was surrounded with water of the temperature of 110° Fahr. The stethoscope was kept applied to the chest whilst the chloroform was exhibited. After four or five inspirations from the inhaler, the heart suddenly ceased to

beat, the breathing still going on. The inhaler was removed as soon as I was satisfied that the action of the heart had ceased, and there were two or three rather convulsive respirations afterwards, and then the breathing stopped; but, between one and two minutes later, there were two or three feeble inspirations, accompanied with motion of the nostrils, but no returning action of the heart could be heard. The chest was opened ten minutes after death. The lungs were quite pale throughout. There was a little clear serum in the pericardium. The heart appeared quite motionless when first observed; but, after exposure to the air for a short time, there were some slight contractions of a few fibres of the right ventricle. The right auricle and ventricle were filled with blood.

The air in the inhaler which this cat breathed, probably contained between twenty and thirty per cent. of vapour of chloroform.

In all the experiments that I have made on animals with sulphuric ether, in which the mode of dying has been observed, the heart has continued to beat after the breathing has ceased. The reason of this is, that the action of sulphuric ether, even when the air contains half its volume of the vapour, is not more rapid or powerful than the vapour of chloroform, when it constitutes but five per cent. of the inspired air.

In order to see more precisely the action of the vapour of chloroform on the heart, when not sufficiently diluted, the chest and pericardium were opened on four occasions, in cats and a rabbit, and chloroform was exhibited by artificial respiration. I was assisted by Mr. Peter Marshall in these experiments, and the following is the account of one of them.

EXPERIMENT IV. A young rabbit, rather more than half-grown, was made insensible by breathing air charged with four per cent. of vapour of chloroform in a large jar. The trachea was then opened, and a tube was introduced and tied. The lungs and heart were then exposed, by making an incision and removing the lower half of the sternum, with the adjoining part of the cartilages of the ribs on each side. The front of the pericardium was also cut away, to expose the heart. Whilst these operations were performed, artificial respiration was kept up by means of a bladder of air attached to the tube in the trachea. The heart contracted vigorously and quickly, and the lungs were of a light red colour. The rabbit was beginning to show signs of returning sensibility, when the bladder of air was changed for one containing ten per cent. of vapour of chloroform. The bladder contained 125 cubic inches, and twelve minims of chloroform were put in before it was filled with the bellows. Three or four inflations of the lungs only were made, when I perceived that the heart was beginning to be affected, and I changed the chloroform for a bladder containing only air. These three or four inflations of the lungs with chloroform, had the effect of causing the right cavities of the heart to become distended with blood, and its pulsations to become much slower. In two or three minutes, however, the action of the heart was quite reestablished by the artificial respiration, the pulsations being vigorous and frequent, and the ventricles being apparently emptied at each contraction. The bladder charged with ten per cent. of chloroform was again attached, and artificial respiration was made with it. The right ventricle began

almost immediately to become distended; and, by the time that eight or ten inflations of the lungs had been made, the contractions of the heart were very slow and feeble. Artificial respiration with air was resumed, but without the effect of restoring the action of the heart. The lungs were observed at the time when the right ventricle was becoming distended, and it was noticed that their colour was unchanged. They afterwards became paler, as the artificial respiration was continued after the ventricle had ceased to empty itself. No contractions of the diaphragm were observed after the first inflation of the lungs with chloroform, and the rabbit did not gasp at any time; whilst the cats had been observed to make a few gasping efforts at inspiration, at the time when the heart's action was ceasing.

The circumstance of the lungs not changing in colour at the moment when the right ventricle was becoming distended, which was observed in the cats as well as in the rabbit, shows that the distension arose from the failure of the contractile power of the heart, and not from impediment to the pulmonary circulation; for, in the latter case, the lungs would have become congested, and of a deeper colour. In one of the cats, it appeared to me that the left, as well as the right ventricle, was distended with blood; but this distension of the left ventricle did not continue.

There is no reason to believe that any of the accidents from chloroform have arisen from the continued exhibition of the vapour well diluted with air. On the contrary, the sudden manner in which the alarming symptoms came on in every case, shows that they were produced by the respiration of air containing not less than eight or ten per cent. of the vapour; and, from the history of the cases, it is most probable that the heart was disabled, in most instances, by the direct action of the chloroform. No systematic means were taken for properly diluting the vapour with air, in any case in which death has happened. The chloroform was exhibited on a handkerchief, or towel, or piece of lint, in all the cases but three; and, in two of these, it was not applied by a medical man. In order to show how easily accidents may happen with chloroform, I must beg attention to a few circumstances connected with its physical as well as physiological properties. On a former occasion, I showed,¹ both from experiments on animals, and the amount of chloroform consumed in inhalation, that the average quantity of it in the blood of an adult patient, when insensible to the surgeon's knife, is about eighteen minims, and that, if twice that amount were present in the blood, it would suffice to cause death, even if it were uniformly distributed. Now thirty-six minims of chloroform, when in the form of vapour, only occupy thirty-seven and a half cubic inches, or very little more than a pint. It is true that the vapour of chloroform does not exist in a separate state at the ordinary temperature and pressure of the atmosphere; but air, when saturated at 60°, contains rather more than twelve per cent. of the vapour; and, supposing the air to contain ten per cent., which it does when the chloroform dew point is at 55°, the thirty-six minims would be contained in 375 cubic inches of air, more than half of which might possibly be in the lungs at one time.

¹ Medical Gazette, vol. xliii, p. 414.

The quantity of blood contained in the adult human being, has been estimated by M. Valentin to average thirty pounds; and the thirty-six minims of chloroform, mentioned above, is only one minim and one-fifth, or one cubic inch and a quarter of vapour, for each pound of blood measuring about twenty-seven cubic inches. Consequently, if a pound or two of blood should be impregnated to this extent with chloroform, and sent to circulate in the nervous centres, the respiration might cease before the remainder of the blood should be equally charged with vapour. Moreover, I ascertained that a little more chloroform than this, viz., one-eighteenth part as much as the blood will dissolve, or about a cubic inch and a half of vapour to each pound of blood, has the effect of stopping the contraction of the heart by its own influence.¹ Now, 100 cubic inches of air, containing ten per cent. of vapour, if present in the air cells of the lungs, might yield this amount of chloroform to two or three pounds of blood, and still retain from five to seven per cent. It is easy to perceive, therefore, that death might be caused by a very small quantity of chloroform, if it were inhaled in a concentrated state; and, indeed, in the Experiment No. iv., on the rabbit related above, the action of the heart was arrested by three or four inflations of the lungs in so short a time, that only a portion of the blood in the body could have become impregnated with the chloroform. The necessity of having the vapour sufficiently and systematically diluted with air, must, therefore, be evident. By such a plan, it is true, the patient cannot be made insensible in so short a time as was recommended by Dr. Simpson on the introduction of chloroform. Three or four minutes must be occupied in gradually and equally charging the blood with the requisite amount of vapour, but it is time well expended on the safety which it ensures.

The quantity of chloroform contained in the air the patient breathes during the use of the handkerchief, depends on the amount of surface wetted by the chloroform—on the proportion of air which comes in contact with the wetted surface, or passes into the lungs without this contact—on the extent to which the handkerchief is now warmed by the breath, now cooled by the evaporation, and on the force with which the inspired air impinges on the surface of the handkerchief moistened with chloroform. It must be evident, therefore, that the amount of vapour contained in the air the patient breathes is very uncertain; and when it is stated that the agent has been administered in exactly the same manner in two cases in which the handkerchief has been employed, it would be more correct to say that it was exhibited in an equally uncertain way in each instance; and the difference in the result should be attributed rather to the want of uniformity in the method employed, than to a difference of susceptibility in the patients: for in administering chloroform by a uniform method, I find very little difference in the susceptibility of persons to its chief effects, whatever variety there may be in the symptoms they evince previous to becoming insensible.

It will be remembered that Dr. Simpson recommended the general use of undiluted chloroform very quickly after its existence was made known to him by Mr. Waldie, and that amongst the advantages which

¹ Medical Gazette, vol. xliii, p. 415.

he stated that chloroform possessed over sulphuric ether was this, that it requires no particular apparatus for its administration. There can be no doubt that this was a great error. Chloroform being more powerful, when inhaled, than any other agent which has been used in a similar manner, except bisulphuret of carbon and hydrocyanic acid, particularly requires mechanical means for its regulation; but the high position of Dr. Simpson, and his previous services in this department, more particularly in being the first to administer ether in labour, gave his recommendations very great influence; the consequence of which is, that the practice of anæsthesia is at present probably in a much less satisfactory state than it would have been if chloroform had never been introduced. There are a few patients who submit now to the pain of operations, and many who inhale chloroform not without considerable fear; whilst, if we had been confined to the use of sulphuric ether, which is incapable of causing sudden death without giving distinct and timely warning, there can be no doubt that confidence in it would before this have been universal. I do not propose, however, that we should return to the use of sulphuric ether; for chloroform possesses certain conveniences of which it is easy enough to avail ourselves, whilst we disarm it of danger. To do this, all that is required, is to ensure that its vapour shall be sufficiently diluted with atmospheric air: not, be it remembered, for the purposes of respiration, as the physical properties of chloroform ensure this; but in order to prevent its absorption into the blood with such rapidity, that there is no time to watch its effects.

There are two ways of effecting with certainty the sufficient dilution of the vapour with atmospheric air: the first and best, is to employ a suitable inhaler; the second, is to dilute the chloroform with rectified spirit of wine before pouring it on a handkerchief or sponge.

In the apparatus which I usually employ, the air which passes over the bibulous paper, when the patient breathes in the usual manner, takes up between five and six per cent. of the vapour of chloroform. I have ascertained this by weighing the inhaler before and after passing a measured quantity of air through it, in the way in which it passes in ordinary respiration, the loss of weight denoting the amount of chloroform which had evaporated. The apparatus is, besides, provided with valves, by means of which the air thus charged with chloroform can be still further diluted to any extent desired; and I always commence the inhalation with air containing very little chloroform, gradually increasing the quantity of vapour, and usually diminish it again as the insensibility attains the desired point, or at any time when the breathing is deeper and quicker than usual.

As regards the dilution of chloroform with spirit, this is the form in which it was first used for inhalation under the name of chloric ether, which is a tincture of chloroform in rectified spirit of wine, containing from twelve to eighteen per cent. of the active ingredient. Dr. Bigelow of Boston, U.S., had tried this preparation, but Mr. Jacob Bell was the first to use it with success. It was occasionally employed in St. Bartholomew's Hospital, and in the private practice of Mr. Lawrence, but did not come into general use on account of its expense and the uncertainty of its action. It is only capable of yielding between one and a half and two per cent. of vapour of chloroform

at the commencement of inhalation, and much less afterwards. I do not think that it would be possible to kill a person by the inhalation of chloric ether if it were attempted, but it is tedious and uncertain in its effects; and if we wish for a preparation of chloroform that can be given safely and effectually with no other apparatus than a handkerchief, it must be something between pure chloroform and the so called chloric ether. One part by measure of chloroform to two of spirit, as recommended by Dr. Warren of Boston, U.S., and called strong chloric ether by him, answers generally very well, but he found it to fail in a few instances in the way in which he employed it. I believe that equal parts by measure of chloroform and rectified spirit, would not fail in any instance to cause insensibility, if judiciously employed on a handkerchief or sponge, and that it would not be liable to cause accident. Certainly the care which has sufficed to limit the deaths from undiluted chloroform, when thus employed, to about eighteen, would have been more than sufficient to prevent them altogether, if the chloroform had been diluted with an equal measure of spirit.

When chloroform thus diluted is first poured on a handkerchief, it is capable of yielding only a little more than half as much vapour to air which is brought in contact with it, as it yields in the undiluted state. As the process of inhalation continues, it yields less and less vapour, a weaker solution being left on the handkerchief. But by adding more of the mixture, the process goes on as at first. It is some little disadvantage that a combination of chloroform and spirit does not yield a uniform amount of vapour throughout the process of inhalation; but this is not of much consequence in using a handkerchief or sponge—the only method in which it is recommended—for this plan of administering chloroform does not admit of regularity or uniformity under any circumstances. During the removal of tumours of the maxillary bones and other operations on the face, in which I could not continue to employ the inhaler, I have been in the habit for the last three or four years of using chloroform diluted with an equal measure of spirit on a sponge, whenever I was aware beforehand of the nature of the case, and had time to be provided with it. At other times, I have poured only fifteen or twenty minims of chloroform on the sponge at once. The spirit is not at all irritating to the air passages, and its effects would not be injurious if it were inhaled in larger quantity; but owing to its small volatility as compared with chloroform, the patient does not inhale more than a few minims of it in the course of an operation, the greater part remaining behind on the handkerchief or sponge. I have often given chloroform thus diluted on a sponge or handkerchief to make animals insensible during physiological experiments, without ever meeting with the accidents which so frequently happen in giving undiluted chloroform to animals in the same manner.

The two following experiments show the great difference in action between undiluted chloroform and chloroform diluted with spirit, when given on a handkerchief, to the extent of causing death.

EXPERIMENT V. A cat was made insensible by breathing air containing four per cent. of vapour of chloroform for five minutes in a large glass jar. It was then taken out and laid on the table, and a folded handkerchief, on which two fluid drachms of chloroform had

just been poured, was applied so as to inclose its nose, without, however, interfering with respiration. The stethoscope was at the same time applied to the chest. At the time when the handkerchief was applied, the breathing and sounds of the heart were natural. The cat had not taken more than five or six inspirations after its application, however, when the breathing became sonorous and laboured, and the sounds of the heart became less distinct; and after two or three inspirations more, the heart could be no longer heard. At this moment the handkerchief, which contained nearly as much chloroform as when applied, was removed from the nose, and the cat made twelve or thirteen deep and gasping inspirations afterwards, which occupied about half a minute, but they did not restore the action of the heart. The chest was opened eight minutes after death. The lungs were quite pale. The right cavities of the heart were very full of blood. There were very feeble contractions of the right auricle, but none of any other part of the heart. On the descending cava being cut near the auricle, a quantity of blood flowed, and after this, together with the exposure to the air, some very feeble contractions of the right ventricle were observed. The left ventricle of the heart, when opened on the following day, was found to contain very little blood.

EXPERIMENT VI. Another cat was made insensible in the same way as the last, and being laid on the table, and the stethoscope applied, it was found that the breathing and the action of the heart were natural. Two fluid drachms of a mixture of chloroform with rectified spirit, in equal volumes, were poured on a handkerchief, which was applied round the nose, as in the previous experiment. In about a minute after the handkerchief was applied, and when the cat had taken about thirty inspirations, the breathing became laboured and sonorous, and the action of the heart became very rapid. The heart's action next became slow, the breathing continuing of the same character. In about half a minute longer, the pulsations of the heart became more frequent and distinct, but the breathing at the same time became slow and feeble, and it ceased about three minutes after the handkerchief was applied. The sounds of the heart could be heard for about a minute after the breathing ceased. The chest was opened a quarter of an hour after death. The lungs were of a bright red colour, and contained a moderate quantity of blood. The right auricle was contracting regularly and vigorously, but the other parts of the heart were not contracting, till on making an opening in the vena cava, which relieved the distension of the right ventricle, it began to contract, but less frequently than its auricle. The left ventricle of the heart was about one-third filled with blood.

In another experiment on a cat, with chloroform diluted in the same manner, 130 pulsations of the heart were counted after the breathing had stopped; and then, when the heart's action had nearly ceased, the breathing recommenced by gasping inspirations, which had the effect of causing the heart to beat again with great rapidity; but, as the chloroform was kept applied, the breathing and circulation soon ceased altogether.

The following list contains, I believe, all the cases on record in which death has been caused by the administration of chloroform. I have not included three or four deaths which have happened to persons who

have poured chloroform on a handkerchief, and inhaled it when no one was present; for an accident is so natural a consequence of such a proceeding, that these cases do not come within the scope of this paper. The appearances met with after death in two of them will be noticed, however, further on.

1. January 28, 1848. Hannah Greener, aged 15, near Newcastle. Toe-nail operation.

2. Feb. 23, 1848. Mrs. Simmons, Cincinnati, U.S. Extraction of teeth.

3. March 1848. Patrick Coyle, America. Operation for fistula in ano.

4. A young woman at Hyderabad, in Hindostan. Amputation of the distal phalanx of a finger.

5. May 1848. Madlle. Stock, aged 30, Boulogne. Opening an abscess.

6. 1848. Charles Desnoyers, aged 22, Hôtel Dieu de Lyon. Trans-current cauterisation of diseased wrist.

7. Dec. 1848. Young gentleman at Govan, near Glasgow. Intended toe-nail operation.

8. Jan. 19, 1849. John Griffith, seaman, aged 31, New York Hospital. Removal of hæmorrhoids.

9. Jan. 24, 1849. J. Verrier, aged 17, Lyons. Intended amputation of finger.

10. Feb. 20, 1849. Samuel Bennett, labourer, Westminster. Amputation of toe.

11. Aug. 23, 1849. Madame Labruno, Langres, France. Intended extraction of tooth.

12. Oct. 10, 1849. John Shorter, aged 48, St. Thomas' Hospital. Toe-nail operation.

13. Nov. 1849. Girl named Jones, Shrewsbury. Removal of eyeball.

14. Young lady, Berlin. Intended extraction of tooth.

15. Feb. 1850. Artilleryman on board ship in the Mauritius. Amputation of last phalanx of middle finger.

16. June 1850. Alex. Scott, aged 34, Guy's Hospital. Removal of portion of hand.

17. Sept. 20, 1850. James Jones, aged 24, Cavan Infirmary, Ireland. Intended amputation below the knee.

18. April 1851. John Holden, Stepney Workhouse. Intended operation on penis.

19. June 10, 1851. Madame Simon, aged 36, Strasbourg. Extraction of teeth.

20. July 8, 1851. Thos. Hutton, a mulatto, aged 45, Dreadnought Hospital Ship. Extirpation of testis.

21. Oct. 1851. Elizabeth Hollis, aged 37, Chipping Norton, Somerset. Intended operation for cancer of os uteri.

The above list contains two or three cases that have not appeared together in any previous table, whilst, on the other hand, I have excluded some deaths that have been attributed to chloroform, either because the fatal event was clearly due to something else, or because there are no means of deciding the point.

In a table given by Dr. Bouisson,¹ the death of a child, aged twelve years, during amputation of the leg, at the hospital at Madrid, is given. But this is an operation which is sometimes preceded or accompanied by circumstances which may be fatal; and as the published particulars are not sufficient to enable me to decide, I have excluded it. Three of the insurgents who were wounded in Paris, in June 1848, died during operations in which chloroform was administered. Two of the operations were amputation at the hip-joint, and the third was amputation at the shoulder. As the operators do not attribute the deaths to chloroform, there is no reason why others should do so. The death of a patient of M. Roux has been attributed, not by that surgeon but by others, to chloroform, although it is quite certain that this was not the cause. A woman had a cancerous tumour of the breast removed under the influence of chloroform; and, after she became conscious, M. Roux performed a protracted operation for the removal of some glands from the axilla, without the chloroform, and whilst the patient was sitting up to have a bandage applied, she fainted, and was dead. A death which occurred in the practice of Mr. Robinson, the dentist, I consider was not due to chloroform, because the patient showed none of the symptoms of its effects, and because the inhaler which was employed had not been approached nearer than an inch from the patient's face, whilst it might be held at that distance for a week without causing insensibility, much less death. On a former occasion² I expressed an opinion, that death was caused by syncope from mental emotion, occurring in a patient with great organic disease. Since that time, I have been present with Mr. Marshall, of Greek Street, at the *post-mortem* inspection of the body of a woman who died suddenly of fright, in consequence of a fire in the next house to that in which she lived, in Crown Street, Soho. We found in that case exactly the same diseases as in Mr. Robinson's patient, viz., fatty degeneration of the heart, and great enlargement of the liver, displacing the viscera of the chest. Dr. Aschendorf has attributed to chloroform³ the death of a child a year old, from whose face and neck he extirpated a large nævus, which extended from the zygoma to the os hyoides, and from the external auditory meatus to the maxillary fossa. No one else had been willing to undertake its removal. The operation lasted eighteen minutes, and only nine drops of chloroform were used in all. The child died suddenly at the end of the operation. As no chloroform had been applied for eight minutes before death, and then only three drops, it is quite impossible that this agent could have been the cause of the fatal result, and it only seems curious that the operation did not suggest itself to Dr. Aschendorf, as affording a sufficient explanation of the event.

(To be continued.)

¹ Traité de la Méthode Anæsthétique, p. 398.

² Edinburgh Medical and Surgical Journal, No. 180.

³ CASPAR'S Wochenschrift, September 6, 1850.

ON THE RELATIONS OF UTERINE TO CONSTITUTIONAL DISORDER.

By F. W. MACKENZIE, M.D., Physician to the Paddington Free Dispensary for the Diseases of Women and Children, Fellow of University College, etc.

(*Concluded from p. 236.*)

THIRD GROUP. CASES OF UTERINE DERANGEMENT COINCIDENT WITH STRUCTURAL DISEASE OF THE UTERINE ORGANS.

I PROPOSE, in the last place, to introduce a few cases of this description, in illustration of the general remarks which I have made on the Relations of Uterine to Constitutional Disorder; and in doing so, it is more especially with the view of directing attention to the influence of various remote or constitutional causes in the production of a state of uterine irritation, which *superadded* to organic disease is, I believe, often the efficient or exciting cause of many of those formidable symptoms which are so liable to occur in the progress of these diseases.

Structural disease of an organ, as I have remarked, is not necessarily incompatible with the moderately healthy performance of its functions, or even with comparative freedom from discomfort, if disorder can be averted or removed. Indeed, it has often happened, that with care, an organ extensively diseased has been enabled to perform its functions for a lengthened period, without occasioning any very serious detriment to the constitution. The causes, then, of such disorder, while they demand to be carefully investigated in all cases, more especially claim our attention in the instance of those which like the present are not susceptible of radical cure.

Of all the circumstances which compromise the welfare of the patient in the progress of these diseases, there is none which is so liable to occur as *uterine hæmorrhage*; by this, perhaps more frequently than by anything else, has the life of the patient been endangered, or her constitution seriously and irreparably injured; and hence it is an occurrence which should not only be treated, but, if possible, anticipated and averted. In speaking of simple menorrhagia, I adduced several facts to show, that this often occurs as the result of uterine irritation, secondarily set up, and sympathetic of disorder of other organs, more especially of the chylopoietic. The following cases are calculated to prove that the same principle applies to those hæmorrhages which occur in connexion with organic disease of the uterus, and it is that therefore one which deserves to be remembered and acted upon in their treatment. I have at least found, that treatment directed to its removal was, in many cases, of more avail than the mere routine employment of styptics and astringents.

CASE. CONSIDERABLE ENLARGEMENT OF THE UTERUS REACHING TO THE UMBILICUS FROM INTERSTITIAL FIBROUS DEPOSIT: MENORRHAGIA. Mrs. V—r came under my care on the 9th October, 1850. She was emaciated, sallow, and bloodless, and had been for some time under medical treatment, but without having derived any particular benefit from it. She had for some years suffered much from mental anxiety, since which her health had very visibly declined; and twelve months before, she had had a very severe attack of cholera, which further

reduced her very much. In the course of the preceding summer she left London, and placed herself under the care of a medical friend, with whom she remained for about two months; but at the end of that time she was not materially better, and on her returning home, her friend called with her upon me, and expressed a very unfavourable opinion of her case. He observed that he considered that she was suffering from organic disease of the liver, and that there was congestion of almost every important organ of the body. He had treated her with mercurials, and had, indeed, endeavoured to get her system under the influence of mercury, but no good had resulted, and, upon the whole, he thought that her case was little better than hopeless.

I visited her shortly after this interview, and found her as I have stated, weak, nervous, emaciated, and bloodless, and altogether very much broken down. Her digestive organs were irritable and disordered; her tongue was frequently clammy and unpleasant on awaking in the morning; her appetite was uncertain, and her bowels irregular. She had, moreover, that peculiar sallow, chlorotic appearance which indicates an aggravated form of anæmia and dyspepsia combined. On two occasions, she had suffered rather profusely from menorrhagia, but as this had occurred many months before my visit, and as she had no other uterine symptom, pain, or disorder, I did not feel justified in making a special examination of the uterus on that occasion. I was, however, unable to discern any evidence of organic disease of the liver, or of the other chylopoietic organs, and believing that her case was one rather of extreme anæmia, complicated with irritative disorder of the digestive organs, and dependent in a great measure upon mental influences, I decided upon treating the case upon general principles. I prescribed the occasional use of mild alteratives at bedtime, with gentle aperients the following morning; and I directed her to take the citrate of iron in full doses after each principal meal daily. Under this treatment, and with due attention to diet and regimen, her health rapidly improved, so much so indeed as to be a matter of astonishment to her friends, who had altogether despaired of her recovery. She passed a menstrual period favourably, and towards the approach of the second, was apparently perfectly convalescent. She had gained considerably in flesh, acquired a good colour, and was equal to much exertion. At this menstrual period, however, profuse menorrhagia took place. The exciting cause of this, I was unable to learn; but I felt it necessary at once to institute a careful examination of the uterus, and I found, to my surprise, that it reached as high as the umbilicus. Its structure was, moreover, dense, firm, and resistant, but it was uniformly smooth and free from any tuberosities. On a vaginal examination, the cervix was found to be considerably hypertrophied: but this hypertrophy was continuous with that of the body, and the uterine parietes were unusually firm and resistant. The os uteri was somewhat open, but not more so than is usual during ordinary menstruation. Nothing could be discovered within the interior of the uterus, and, upon the whole, it appeared probable that the extraordinary enlargement of this organ was dependent upon interstitial deposit within its parietes. As, however, its nature was doubtful, the opinion of Dr. Robert Lee was taken respecting it, which coincided with that which I have stated.

Under these circumstances, the immediate treatment was directed to

the suppression of the hæmorrhage by cold and styptics, and such general measures of diet and regimen as are indicated in these cases. In the course of a day or two, the hæmorrhage had subsided, and the constitutional treatment previously adopted was again had recourse to; but with this addition—the patient was especially warned to be careful at the approach of the menstrual periods, and to anticipate hæmorrhage by taking a few doses of gallic acid before each return, in addition, to be quiescent, and to take an alterative at bedtime whenever the tongue was dry or unpleasant in the morning.

The result of this treatment has been, upon the whole, highly satisfactory. It was continued for little more than a month; but nearly eighteen months have since elapsed, and, with one exception only, there has been no return of the menorrhagia. Throughout this period she has experienced no other symptom or feeling of uterine disorder, and has enjoyed, upon the whole, good health—subject, however, to the necessary consequences of trouble and mental anxiety.

CASE. INDURATION AND HYPERTROPHY OF THE CERVIX UTERI. FIBROUS TUMOUR OF THE FUNDUS. PROFUSE MENORRHAGIA, RECURRING FREQUENTLY FOR MANY MONTHS. Mrs. B—h, aged 34, was first seen by me at one a.m. on the 21st November, 1848, in consequence of having been attacked by profuse flooding, which threatened to endanger her life. It was supposed to be connected with a miscarriage, but on a vaginal examination nothing of the kind could be detected, whilst it was at once evident that the cervix uteri was much diseased, that there was a fibrous tumour attached to the fundus uteri at its right side; that the body of the organ was throughout enlarged, and could be readily felt above the pubis. The immediate treatment consisted in the employment of cold externally, and the internal exhibition of the acetate of lead with opium. After a day or two had elapsed, the hæmorrhage had, in a great measure, subsided, and the following history was obtained.

Many years ago, she had had profuse flooding after a labour, and this occurred to such an extent, that her life was despaired of. Ever since that, she had been weakly, nervous, and indisposed. Menstruation had been irregular, generally in excess, and had recurred on an average every three weeks. About twelve months ago, she was led to believe, from its temporary interruption, that she had become pregnant; and six weeks subsequently to this, flooding to a considerable amount took place, but without being attended by any appearance of a miscarriage. For this she consulted a late eminent physician, who inclined to the opinion that if she had not already miscarried she shortly would do so, and he prescribed such measures as were calculated to moderate hæmorrhage. After a time, this attack ceased; but in a few weeks it was followed by another, and successive recurrences of hæmorrhage took place up to the time of my visit. I ascertained that throughout the whole of this period, and, indeed, antecedently to the labour, which was followed by so much flooding, that the patient had suffered from great disorder of the stomach and digestive organs. Her tongue had been habitually coated thickly in the morning; her appetite most uncertain; and her bowels very irregular. Her nervous system had been depressed and irritable; and she had for some time past been unequal to much exertion. So long, indeed, had she suffered from

these dyspeptic symptoms, that she could not be persuaded that they were otherwise than natural to her, and with this impression she declined to adopt any measures for the cure of the disorder.

The hæmorrhage ceased under the treatment I have mentioned, but it still continued to recur occasionally. About the end of May, 1849, she attended a concert which was extremely crowded and close, and this led to a severe relapse. Hæmorrhage took place to such an extent that she was again impressed with the idea that she was about to miscarry, and Dr. Locock was consulted in her case. He made a careful examination of the uterus, and came to the conclusion that she was not pregnant. He pointed out the diseased condition of the neck and body of the uterus, which I have mentioned, and suggested that the vagina should be plugged if the hæmorrhage should threaten to be dangerous; and he suggested, also, a trial of the liquor arsenicalis internally. In time this attack ceased also, as had the former; but relapses continued to recur, and the patient, finding that specific treatment afforded no permanent benefit, consented to adopt such general measures as would correct the disordered state of the stomach and digestive organs. These consisted more especially in a course of alteratives and aperients, with a carefully regulated diet. They were continued for some little time, but in the end proved eminently successful. The hæmorrhages ceased to recur as before; and after staying a few weeks at the sea side, she returned home much better than she had been for a long time. Menstruation became normal, and she subsequently became pregnant. I have reason to believe that this patient has ever since enjoyed good health and freedom from uterine hæmorrhage or uneasiness.

CASE. FIBROUS ENLARGEMENT OF THE NECK AND BODY OF UTERUS: SEVERE METRORRHAGIA. Mrs. B——d, aged 40, was attacked with uterine hæmorrhage on the morning of the 3rd September, 1849, and was seen by me in the course of the same day. She had some doubts as to whether she was pregnant, and therefore about to miscarry, as menstruation had been delayed somewhat beyond its usual period, but on a vaginal examination this did not appear to be the case. The neck of the womb was, however, much enlarged, and its body lobulated with fibrous growths. With this condition of the uterus, the patient's general health was much deranged; she was weak, nervous, and irritable, very much depressed, and easily fatigued; her digestive organs were also very much disordered; her tongue was furred, her appetite had been bad, and her bowels much confined: it further appeared that she had habitually suffered from these symptoms for many years; more particularly, her tongue had been unpleasant on awaking; she felt unrefreshed after sleep, and had an uncertain and capricious appetite, with much languor and depression: she was, moreover, at the time of my visiting her, anæmic, weak, and generally out of health. My experience in other cases, where dyspepsia coexisted with uterine hæmorrhages connected with organic disease of the uterus, led me at once to address myself to the cure of the former; and the treatment recommended was accordingly entirely directed to the disordered state of the stomach and digestive organs. Very little more than alteratives were prescribed; yet by these alone the hæmorrhage subsided in a few days, and it was observed to do so concur-

rently with the improvement which took place in the state of the stomach and digestive organs. In three weeks it had entirely ceased. Shortly afterwards she became pregnant, and she has since continued to enjoy good health, and entire freedom from uterine uneasiness or hæmorrhage.

CASE. CARCINOMA UTERI; METRORRHAGIA. Mrs. Elizabeth S—e, aged 69, applied at the Paddington Free Dispensary, September 22, suffering from much pain in the uterus, back, hips, and down the thighs. She had a frequent sensation of bearing down, which was sometimes so severe, that she could not sit with any comfort. She complained, also, of profuse uterine hæmorrhage, which had continued, more or less persistently, for four months previously to my seeing her. On making a vaginal examination, the cervix uteri was found to be enlarged, indurated, and tuberoso. A hard tubercular matter was found to be disseminated throughout the vagina; and from the peculiar character of these indurations, and the age and the appearance of the patient, I had very little doubt as to their being of a carcinomatous nature. The uterus was, moreover, adherent to, or impacted in, the surrounding parts, and consequently was almost immovable. The patient had a sallow, unhealthy look, such as is especially characteristic of malignant disease. The following history was elicited. She dates her uterine symptoms as far back as thirty-six years ago, when she caught cold on the tenth day after labour; the lochia were suddenly stopped, and she became very ill for some time afterwards, and suffered much from pains in the womb and back. From that time she has never menstruated, although she was then only thirty-five years of age. Her health continued to be more or less indifferent until May last, when she was attacked, suddenly and profusely, with uterine hæmorrhage. For this, she was not aware of any sufficient cause; and it had continued, almost constantly, up to the time of her applying for advice. Her tongue throughout, as well as antecedently, had been much disordered; and she has felt for some time weak, low, and nervous. At present, her tongue and digestive organs were much disordered, and she was greatly anæmiated. There was also much pain in the uterus and back. She was at first ordered the gallic acid during the day, with an alterative every night, and the sulphate of soda, in aperient doses, every morning; but, as the hæmorrhage had in no degree lessened, after a week's treatment, she was directed to take bismuth daily, as well as the gallic acid. In three days from this change, she was decidedly better; the hæmorrhage was much lessened, although it had not entirely ceased. The state of the stomach and digestive organs was much improved; and she attributed this improvement chiefly to the bismuth. She continued this treatment up to the 10th of October, when the hæmorrhage had entirely ceased; her tongue was clean, appetite good, and bowels regular. She felt stronger, and in almost every respect very well. Hitherto (Dec. 1851) she has had no return of hæmorrhage or uterine uneasiness, and is at the present moment, I believe, in the enjoyment of very tolerable health, and freedom from uterine symptoms.

CASE. CARCINOMA: METRORRHAGIA. Mary S—n, aged 49, applied at the Paddington Free Dispensary, September 12th, suffering from uterine hæmorrhage, which had continued almost constantly for

a month, and which she had been repeatedly troubled with for the last five and a half years. She had menstruated regularly up to this time, but ever since there had been more or less of a disposition to uterine hæmorrhage. Sometimes this would continue for thirteen weeks together; and she had seldom been more than three weeks free from it during the whole of that period. She told me, that she had gone through a great deal of trouble and anxiety. Her husband at one time was possessed of a hundred thousand pounds, but it was all lost by gambling. She had lost one child by starvation, and had herself been in the workhouse. She had had nine children, of which number five were living; and at each labour she lost a large quantity of blood. On examination, the cervix and os uteri were found extremely indurated, and this induration was nodulated and of a peculiarly stony character. The organ was not very sensitive to touch, and the surface was smooth and free from any roughness or abrasion. The os uteri was small, and the axis and position of the cervix normal. There was extreme tenderness of the lower part of the spine and sacrum, and pressure here occasioned uterine uneasiness. She almost invariably awoke with a dry, unpleasant, and bad tongue, and habitually suffered much from thirst at night. Almost everything she took, left a sourness in the mouth; her appetite was bad, and her bowels constipated. She slept badly, awoke unrefreshed, and felt weak, nervous, and languid. There was a loud venous bruit in the neck; she was subject to severe headaches, more especially over the right brow, and generally awoke with one. The uterine hæmorrhage began almost always with a green leucorrhœal discharge, which afterwards became bloody and clotted; and as these characters subsided it again became green, and it was also very offensive. She was ordered to maintain active counter-irritation over the lower part of the spine by means of the tartar emetic ointment; to take five grains of blue pill every second night at bedtime, and the muriated tincture of iron, with muriatic acid, and the liquor hydrargyri bichloridi daily; together with the gallic acid in pills, as long as the hæmorrhage continued. Until the 28th October, she had continued this treatment with the best results, and she then reported herself to be almost perfectly convalescent, and free from any uterine pain, uneasiness, or hæmorrhage. She had no pain in the back, or bearing down of the uterus; her tongue was clean, her appetite good, and her bowels regular. I have lately again seen this patient, and can add, that up to the present time she has continued perfectly well.

REMARKS. There are two points in connexion with these cases to which alone I will very briefly advert. The one is the extent to which organic disease of the uterus may exist, without being attended by any very manifest uterine disorder. The other is the prejudicial influence of chylopoietic derangement upon the uterine organs, when thus organically diseased.

The former of these circumstances is more especially shown in the first of the cases which I have given, where the uterus had reached as high as the umbilicus, as the result of morbid growth, without the patient having experienced any uterine uneasiness, or having been cognisant of the existence of any uterine disease. Twice, indeed, she had suf-

ferred from menorrhagia, but at distant intervals, and under circumstances which would readily account for its occurrence, in the absence of any organic disease of the uterus. Beyond this, she was exempt from any uterine symptoms; her menstruation was, for the most part, regular; she had no uterine pain or uneasiness, nor did she suffer from leucorrhœa. So far, then, the case is affirmative of the principle which I have asserted, that a considerable amount of organic disease of the uterus is not incompatible either with freedom from uterine uneasiness, or with an absence of functional disorder; and, therefore, when these are present, or coexist with such disease, we are by no means justified in assuming that they are its necessary consequences. Who has not, for instance, known fibrous tumours, and other organic diseases of the uterus, to have been accidentally discovered on a *post-mortem* examination, when the subject had never experienced, or at least complained of, any uterine symptoms during life? Who, again, has not happened to find a considerable amount of structural disease of the uterus cursorily revealed on examining this organ, when the patient had never been aware of its existence, or had only suffered from some very slight or equivocal uterine symptoms? Such instances must have occurred in the practice of most obstetricians; and their occurrence and significance is especially important at the present day, when every blush of redness of the cervix uteri, and every abrasion of its mucous membrane, is supposed to represent some particular form of uterine disease, and to be the cause of the most severe and general derangement of the constitution. So far, however, from structural disease of the uterus being necessarily productive of constitutional disorder, or even of uterine derangement, I constantly meet with it irrespectively of both; and the second case which I have reported may be cited to show, that if incidental disorders can be corrected, it is not incompatible either with healthy menstruation, pregnancy, or parturition. We do undoubtedly sometimes find it attended with very serious symptoms, with derangement of the general health, and with much uterine disorder; but, as I have said, are we in these cases justified in attributing such consequences exclusively to it? That we are not, may, I think, be often deduced from their history, which will show that these disorders, although coincident with the uterine lesion, had not been consecutive to it; and the results of treatment tend further to show that on removing the remote causes of uterine irritation and disorder, tranquillity will be restored to the uterine organs as well as to the constitution, notwithstanding the continued existence of organic uterine disease. The conclusion which I would draw from these facts is, that many of the disordered actions which occur in connexion with these organic diseases of the uterus have another origin, and depend rather upon irritation superadded to structural disease, than upon the structural lesion itself. The nature and the seat of this irritation will vary in different cases: it may be primarily in the uterus, in the blood, in the nervous system, or in distant organs; but wherever it exists, it requires to be carefully investigated and corrected, as a necessary step to the successful treatment of these cases.

The second remark which I have to make is, that the foregoing cases are affirmative of the opinion, which I have so often advanced in the course of this paper, that the influence of chylopoietic derangement is

very considerable in giving rise to those disordered states of the uterine organs which so often attend upon their organic diseases. In all these cases, this circumstance was rendered sufficiently obvious, whether we look to their histories or to the results of treatment; and although it is sometimes difficult to determine the exact relations which coexistent morbid phenomena bear to one another, yet I think that the evidence is sufficiently strong to warrant the conclusion, that the chylopoietic disorder was the cause, in a great measure, of those severe hæmorrhagic and other attacks which occurred in these cases, and which more especially endangered the health of the patients. It is at least certain, that such derangement preceded as well as attended upon these attacks, and treatment directed to it was more availing than treatment directed to the uterus itself. But I would further observe, that I have frequently remarked that females who are the subjects of organic disease of the uterus, are especially those who have suffered from habitual dyspepsia, whether this has been the result of hereditary causes, of mental uneasiness, nervous irritability, or a neglect of proper hygienic measures. Nor can this be a matter of surprise, if we consider the various modes in which such disorder is calculated to lead to this result. The same system of ganglia which presides over the functions of the chylopoietic organs, presides also over those of the uterine. These ganglia communicate freely by plexuses of nerves, and hence impressions of various kinds are readily transmitted from the one set of organs to the other; and thus the derangements of one become also the cause of the derangements of the other. Moreover, inasmuch as these ganglia are especially subservient to the regulation of the nutritive functions, we can see how irritation, however set up in them, may conduce to abnormal nutrition, and so to those structural changes which are its necessary consequences. Even malignant disease may to a certain extent recognise this origin. It has been repeatedly traced to severe and long-continued mental affliction or uneasiness. It apparently had this origin in the two cases which I have reported, and Récamier, it is well known, held strongly the opinion that cancer may thus be developed. Such causes must, at least, give rise to an irritable state of the nervous system, and a disordered state of the digestive organs, calculated in turn to disturb generally the nutritive functions, and more especially those of such organs as have direct or intimate sympathies with the chylopoietic viscera.

These considerations, then, appear to me to suggest some rules which are applicable to the general management of these cases. And in the treatment of hæmorrhages and other secondary affections, which may occur in the progress of these diseases, we may learn the necessity of directing our attention to other circumstances than the mere local condition of the uterus, and the administration of styptics and astringents. We may learn to look at the same time to the state of the general health, and more especially to that of the nervous system, and of those organs which are sympathetically related to the uterus; not to assume that structural disease of the uterus is the sole or necessary cause of any uterine complication that may coexist, or that a mere state of uterine congestion, either active or passive, is the primary pathological element which we are called upon to treat: on the other hand, to consider this, (as it really is in the majority of these cases),

a secondary or intermediate link in the series of morbid actions which may prevail; and to bear in mind that, just as nervous irritation, or unhealthy nervous action, may have been the original cause of the organic disease, so may it also be the cause of the congestion or hæmorrhage which is superadded. In fact, it cannot be too strongly enforced, that these are secondary and not primary phenomena, the outward or visible manifestations of morbid actions, the causes of which may be remote, and which it is necessary to investigate and to appreciate fully, before we can successfully treat their pathological consequences.

The foregoing observations relate to diseased conditions of the uterus at large. But besides these, there are some of a more limited or local character which involve especially the cervix uteri, and which of late years have been brought very prominently before the notice of the profession, under the title of inflammatory ulcerations of the cervix uteri. I shall conclude this part of the paper with a few remarks upon these affections, or rather, their probable relations to constitutional disorder.

On examining the cervix uteri ocularly, in persons who have long suffered from uterine symptoms, it is not unusual to find that it presents various appearances of an abnormal character. Its volume may be increased, or it may be somewhat indurated, and its mucous membrane may be either reddened, roughened, granular, or abraded. In some cases this has a dark congested look, especially around the os uteri; in some the redness is of a brighter tint; in some it is uniformly diffused, whilst in others it is in irregular patches: in some, again, it is studded with papular elevations, whilst in others it has a velvety or granular appearance. All these conditions I have met with, and therefore I cannot doubt their occurrence, whatever may be their nature or relative frequency, and upon them a system of pathology has been raised, which would connect nearly all the morbid conditions, actions, and feelings of the uterus, with inflammatory ulceration of the cervix uteri. Without, however, stopping to inquire whether every appearance of redness of the cervix can be properly considered as inflammatory, or every abrasion or excoriation of its mucous membrane as ulceration, I would venture to express a doubt as to the correctness of some of the conclusions which have been drawn from these appearances. I do not doubt their existence or possible frequency, but it appears to me to be at least probable that their significance has been misapprehended. They have, for instance, been assumed to be the fundamental cause of nearly all the uterine and constitutional derangements which are met with in connection with uterine diseases, to constitute, in a great measure, the key to the whole subject of uterine pathology, and to furnish, when present, the sole or principal indications in the treatment of uterine diseases. Many observations, however, and some attention to this subject, have led me to dissent from these opinions, and to believe that these appearances have not the importance which has been attributed to them. I have, for instance, found that in various cases of a very similar character, they have been present in some, and altogether absent in others. It is well known, also, that they have been found after death when there had been scarcely any uterine derangement during life; and I have found the same general

measures of treatment to be equally applicable to those cases in which they were present, as to those in which they were absent. I do not, however, by this statement, mean to affirm that local treatment is unnecessary or otherwise than serviceable in these cases; but the motives which would lead me to its employment, and the extent and frequency to which I should have recourse to it, differ very materially from those which have been urged for it by others.

In considering the nature of these appearances of the cervix uteri, and their relations to constitutional disorder, it should be borne in mind that those which have been regarded as ulcerations are often of a very superficial character and limited extent; so much, indeed, is this the case, that they are sometimes not to be detected unless very carefully sought for. "The simplest form in which the mild or benignant ulcer on the uterus shows itself," says Dr. Evory Kennedy, "may be termed excoriation or erosion, in which it exactly resembles an abrasion of the cuticle in the male. It requires," he observes, "the touch of the examiner to be well practised to recognise it, and even the most practised will be deceived occasionally, if he rely upon it exclusively; in the milder forms, *it is merely the epithelium that is eroded*; and in these, the surface of the sore is so smooth and free from granulated elevations, that the finger may pass from the smooth, polished surface of a healthy neck over the ulcer without detecting it" (*Dublin Quarterly Journal of Medical Science* for February, 1847). A medical friend lately informed me, that having some time ago had a patient under his care who was suffering from bad health in connection with uterine symptoms, he called in the assistance of a gentleman who had written much on the subject of uterine disorders, and who at once diagnosed the existence of ulcerative disease of the cervix. My friend was invited by him to inspect the ulceration, but after a careful examination, he reported that he could not perceive it. His attention was then directed to a minute superficial abrasion on the cervix, not, he observed to me, much larger than a pin's head, which he was given to understand was not only the veritable ulcer, but the cause of all the patient's uterine and constitutional derangements. "Whenever an instrumental examination has been decided on," says Dr. Bennet, "it must be efficiently made: whatever speculum may be used, the result cannot be considered satisfactory, unless the entire organ be brought within the field of vision, and unless it be so illuminated by day-light that a *speck of dust* would be visible on any part of its surface.... In common with the continental pathologists who have preceded me in the study of uterine diseases, I give the name of ulceration to a state characterised by the absence of the epithelium as the result of a morbid action, and by the presence of erectile granulations. It is of little importance whether these granulations are so small as to be microscopic, or so large as to be fungous." (*LONDON JOURNAL OF MEDICINE* for May, 1851, p. 453.)

Now, bearing in mind these circumstances, and putting out of consideration for the present all reference to the clinical history of these cases, it appears to me to be difficult to understand how such slight superficial, and even microscopic, lesions of the cervix should react as unfavourably upon the constitution as they are supposed to do, and should occasion those very complex forms of disorder with which we

so often find them to be associated. Certain it is, that much more tangible and appreciable diseases of the uterine neck are met with, without being attended by these consequences; and the cases I have reported, afford some testimony to the truth of this remark. If the cervix uteri were endowed with extreme irritability or sensibility, then, indeed, such results might be apprehended, if not expected; but every accoucheur knows that it is not; he knows that it is capable of sustaining severe injury, contusion, laceration, and even separation during labour, without any very unfavourable reaction taking place upon the constitution. He knows, also, that it is often found to be extensively indurated and diseased, and the seat of malignant deposits, without occasioning any particular symptoms; that operations may be performed upon it with impunity, as well as cauterisation, and that it has been found to have been almost entirely eaten away by *corroding ulcers*, without any uterine pain or uneasiness having been felt, or even any symptoms present to direct the practitioner's attention to the uterus. Bearing in mind these facts, it is difficult, I repeat, to understand how the more trivial lesions of the cervix, which are under consideration, can react as unfavourably upon the constitution and particular organs, as they have been supposed to do.

But, secondly, the clinical history of these cases will be found to show that in the great majority of them a state of derangement of the general health had preceded the development of these affections. The subjects who are the most liable to them, or, at least, to those forms of them which are most obstinate, are generally of a strumous or unhealthy habit of body, or are those whose habits and pursuits have been most unfavourable to health. They are most frequently met with among the residents of large towns, and among those whose constitutions have suffered from the unfavourable influence of indolence, late hours, or irregularities, on the one hand, or from privations, unhealthy or harassing occupations on the other. A morbidly irritable condition of the nervous system, seems also to be highly favourable to the occurrence of these disorders; and from these causes we may readily deduce the existence or production of a state of general weakness and irritability, which, participated in by the uterine organs, would account for all the phenomena which attend these cases, as well as the causation of those physical conditions of the cervix uteri which have been so especially dwelt upon as their principal features.

Whenever the constitutional conditions which I have referred to prevail to any extent, it must of necessity follow that local irritation will very readily follow upon trivial disturbing causes, and irritation so occurring in such constitutions, will speedily give rise to morbid vascular changes in the irritated parts, while these again will prove more or less intractable to medical treatment, in proportion to the general weakness or irritability which may prevail. Such changes, however, so occurring, form but a part of a prevailing diathesis, and cannot be adequately treated without due regard to it: they are assuredly not the causes of the general derangement with which they are associated, but rather its consequences, inasmuch as they follow upon rather than precede it. The extreme susceptibility of the uterine organs to irritation, and its consequences under the circumstances which I have stated, need not be dwelt upon here; it has already been referred

to in various parts of this paper, and its mode of causation must be obvious to all. To show how readily, however, irritation and morbid vascular changes may occur in the uterine system of organs as the result solely of derangement of the general health, and in the absence of all local influences, I quote the following case from Abernethy.

CASE. "A female child, five years of age, having disorder of the digestive organs, had also discharge from the vagina, and dysury: afterwards several sores formed about the labia pudendi, which were foul and fretful, and did not heal under any of the applications that were tried. The tediousness of the case induced the parents and medical attendant to wish for an additional opinion. Being consulted on the case, I suggested some unimportant alteration in the local treatment, and urged particular attention to diet and to the regulation of the functions of the bowels and biliary secretion, which were extremely wrong. The sores after a little time became materially better, but the disorder of the digestive organs rather increased, when, after the child had for several days discharged nothing from the bowels but a substance resembling clay in consistence, and of a slate colour, it died suddenly of nervous disorder."

The history of this case presents a sequence of morbid actions, which I believe to be common to many of these affections of the cervix uteri. Constitutional derangement is first induced, which secondarily gives rise to irritation of the vaginal mucous membrane, and this is soon followed by unhealthy discharges, morbid vascular actions, and ultimately by intractable ulcerations of the affected parts. Whatever, then, the remote causes may be in these cases, the immediate or primary pathological condition which is set up, is irritation or disordered nervous action; and it is this which it is most important to investigate and to remove in all such cases. It is this, indeed, which being present will give rise to all those local symptoms which attend upon vascular disease of the uterus, and which when absent will divest such disease of much of its severity. It is this, also, upon which, rather than upon vascular disease, may be said to depend those unfavourable reactions upon the general health, which are so often observed in connection with these affections of the cervix.

If it were possible in all cases to appreciate fully and to remove the causes of uterine irritation before vascular changes had taken place, I doubt not that we should be able very generally to prevent their occurrence. So also, if these causes could be recognised and removed after such changes had taken place, I doubt not that these secondary lesions would often spontaneously subside under the influence of the corrective powers of the constitution alone. But such knowledge is not always attainable; and hence our indications of treatment are for the most part vague and uncertain, and its results often abortive. Irritation, then, and not inflammation, appears to me to be the key to the pathology of these affections, or rather, I should say, to those functional and constitutional disorders which attend them. All the phenomena attending them may arise from this cause in the absence of any vascular or structural changes. Inflammation, induration, or ulceration, may indeed be superadded, but will occasion little difference in the resulting phenomena; and it is because uterine irritation thus established has so often a constitutional origin, and is so frequently the

consequence of constitutional disorder, that we so constantly meet with such disorders in connection with these affections. From a disregard of this principle, a too physical system of pathology appears to have prevailed upon the subject of these diseases. The physical conditions of the cervix have been carefully noted: every alteration of colour, every thickening or abrasion of its mucous membrane, has been regarded as the essence of some particular species of disease; but the fact at the same time has been overlooked, that these physical appearances are but the consequences, and not the causes, of morbid actions: that they are but the outward manifestations of such actions, and form only a part of the series; often, indeed, being but the terminal links in the chain, of which the primary may be far distant or remote.

Of all tissues of the body, there are probably none which are so liable to suffer secondarily from the effects of constitutional disorder, as the skin and the mucous membranes. They constitute important emunctories for the discharge of various effete and deleterious matters from the blood, whether the effect of mal-assimilation, or the disintegration of the tissues; and their secretions, when vitiated, or greatly altered from their natural condition, may become the exciting cause of numerous local diseases: in the skin, giving rise to different eruptions, and, in the mucous membranes, to various inflammatory and ulcerative conditions. The mucous membrane of the mouth and throat affords many illustrations of this remark; and I would especially refer to the instance of stomatitis ulcerosa—a disease which is often met with amongst strumous or unhealthy children, as the consequence of constitutional causes alone. But the mucous membrane of the vagina furnishes also analogous instances. It is well known, says Dr. D. Davis (*Elements of Obstetric Medicine*, 2nd edit. p. 76) “that female infants, and children the offspring of parents totally free from constitutional syphilis, are occasionally the subjects of leucorrhœal and muco-purulent discharges, very similar in their appearance, and accompanied by a similar state of irritation of their secreting surfaces, as is observed in cases of virulent gonorrhœa. It is, moreover, well known that children similarly free from all taint of syphilis, are not unfrequently the subjects of ulcerations of their external genitals . . . It has happened to the author rather recently, to have been consulted in three cases of children between the ages of three and seven, for a profuse muco-purulent discharge from the vagina, which in one was attended by extensive ulcerations of the vestibule and the posterior fourchette of the pudendum. All the children presented the usual indications of scrofulous constitutions.” Now, if in these cases it is clearly shewn that vaginal discharges, and consequent ulcerations of the pudendum, may occur in children as the sole consequence of derangement of the health, it appears to me to be equally probable that similar occurrences may occur in adult females, as the consequence of similar causes; and that such parts as the cervix uteri, which are constantly exposed to the contact of such vitiated secretions, may equally become secondarily irritated, inflamed, congested, or ulcerated. Such circumstances would, indeed, readily account for the occurrence of inflammatory and ulcerative affections of the cervix uteri, even in the virgin; but they would also guard us against committing the error of considering them as primary and specific

diseases. They point to a constitutional origin, and the necessity of directing our remedies to this cause; they show the inutility of attempting their cure by mere local applications; and, above all, the impropriety of exploring instrumentally the cervix uteri of virgins, for the sake of investigating and treating affections which in reality are secondary, and not idiopathic diseases. Certain it is, that our more empirical forefathers cured many of these cases by correcting disorder of the general health, by enjoining frequent ablution, and the occasional use of tepid or cold water injections.

But these circumstances, while they tend in an especial manner to connect the diseases in question with derangement of the general health, and point to the primary importance of constitutional treatment, are by no means opposed to, or inconsistent with, the employment of topical treatment under certain circumstances. Surgeons, it is well known, resort to such mode of treatment in the case of many local affections which depend upon, or have arisen from, constitutional causes. The irritability of a part may be excessive, or altogether disproportionate to that of the constitution; vascular action, when set up, may continue after the causes which may have produced it shall have been removed; and a trivial irritable sore of any part of the body may, under certain circumstances, disturb the whole constitution. Here, then, and in many other instances, the employment of topical measures will be productive of the greatest advantage; and that, too, whether the disease for which they may be employed is seated on the cervix uteri, or any other part of the body. But such measures, it may be added, will not alone prove successful. I have known them perseveringly employed for months, by very competent persons, and yet with but little permanent advantage. They are extremely useful in conjunction with general measures of treatment, but abstractedly will accomplish little; and when we hear of the cervix uteri being cauterised persistently, for periods varying from three months to as many years, for the cure of these affections, we may be sure that the indications of the case have not been properly attended to or fulfilled. It should be observed, that the cases requiring local treatment moreover form rather the exception than the rule. In the great majority, these ulcerative appearances will spontaneously subside, on amending the state of the constitution which has given rise to them; and it cannot be too strongly insisted on, that change of air, and a short residence at the sea-side, has speedily cured many cases of this description, when every variety of local treatment had entirely failed. "We should have mentioned," says Dr. Evory Kennedy, "that amongst the plans of constitutional treatment had recourse to in some of the more obstinate cases described, change of air is preeminently useful. Often have we seen these ulcers become stationary in some stage of their progress, then extend; and, when every variety of local treatment seemed to fail, moving our patient a few miles from her previous residence, induced a speedy healing action. In the lapse perhaps of a fortnight, matters again became stationary, when the change of place was repeated with the same good effect; in fact, this circumstance is now so familiar to us, that not unfrequently a patient is kept moving about from place to place until the cure is effected." (*Dublin Journal of Medical Science* for July 1847, pp. 79-80.) I might support the correctness of these

remarks, by referring to cases in which, after a few weeks' residence at the sea-side, severe uterine and constitutional disorder speedily disappeared, which had been pronounced, after an ocular examination, to depend upon extensive ulceration of the cervix uteri, and which could only be cured by a lengthened course of cauterisation.

Upon the whole, then, it appears to me to be consistent with the clinical history of these cases, with the appearances presented by the cervix uteri, and with the results of treatment, to affirm that these inflammatory and ulcerative conditions of the cervix uteri have not the significance which has been assigned to them; that they are in nearly all cases secondary, and not primary affections; that they have nearly always either a constitutional origin, or are maintained by constitutional causes; that in a large proportion of cases they are curable by constitutional treatment alone; and that the employment of topical treatment, although often beneficial, is yet of subordinate value, whilst its persistent employment for lengthened periods is at the best unjustifiable, because for the most part unnecessary.

From whatever point of view, then, we regard uterine diseases, whether we look to these more partial affections of the cervix, or to those of a more general character, we observe equally the same laws of morbid action prevailing, and the same general principles of treatment available. It may be doubted, indeed, whether these affections ever occur as partially as has been represented, and whether disorder of one part of the uterine system can long exist without sympathetically producing correspondent derangement of others. Certain it is, that in the great majority of these cases we observe evidence of such consent in the character and combination of the symptoms which are met with. Whatever, however, may be the nature or extent of these affections, the influence of constitutional causes in their production is of the highest importance to recognise; and of these, that which I have attempted to elucidate in the foregoing observations, viz., disturbed states of the nervous system, claims our especial attention.

With these remarks I shall conclude for the present, and shall hereafter continue the subject, by a consideration of the relations of uterine disorder to abnormal conditions of the blood and various constitutional diatheses, in further illustration of the relations which subsist between uterine and constitutional disorder.

Chester Place, Hyde Park Gardens, February 1852.

BIBLIOGRAPHICAL RECORD.

PRINCIPLES AND PRACTICE OF OBSTETRIC MEDICINE AND SURGERY, IN REFERENCE TO THE PROCESS OF PARTURITION: with 120 Illustrations on steel and wood. By FRANCIS H. RAMSBOTHAM, M.D. Third Edition, enlarged. 8vo. pp. 726. London: 1851.

This book combines many advantages: it is lucid, practical, beautifully got up, and very cheap. The present edition is not more bulky than the last; but it is greatly enlarged, by the pages having been made longer and broader. In this way, ample room has been obtained for bestowing due attention upon the various important subjects which have of late been so much discussed by accoucheurs: as, for example, anæsthesia in parturition, galvanism in lingering labours, turning in head presentations where the pelvis is narrow, and removal of the placenta before the child, in cases of placental presentation.

CHLOROFORMISATION OF PARTURIENT WOMEN is not advocated by DR. RAMSBOTHAM.

He says, in summing up his various statements and arguments:—"After what has been advanced above, together with the many cases of death from chloroform that have come before the public at different times, no candid and unbiassed mind can doubt the fact, that *some degree* of hazard must *always* attend on its exhibition; and I think I may fearlessly assert, that no medical man is justified in increasing, even to the least amount, the dangers that hover around a parturient woman, when the object to be gained is merely to cancel the physiological pains of labour, the effects of which pass away almost simultaneously with the suffering itself, and which it is acknowledged leave behind them such faint traces of their ever having existed." (p. 183.)

As a routine practice, chloroformisation is certainly objectionable; and in this opinion we believe that we have the concurrence of an immense majority of practitioners. Every day we hear of this and the other lady who has had chloroform when in labour, and yet to such a moderate extent, as neither to have obliterated consciousness, nor to have removed the sense of suffering. Hence, we are inclined to infer, that even by those who do as a rule give the drug, the exhibition of it is intended, in many cases, to be less of a reality than a something mental wherewith to soothe—a satisfying and calming promise—an anticipation of a delicious and unfailing anodyne within reach, and ready to be given. This is perhaps legitimate; and the practitioner ought not invariably to withhold the drug; but he ought to place its administration on the same rational footing as that on which he would rest his having recourse to any other kind of treatment—he ought candidly to say, that he will administer it *if required, and to such an extent as the circumstances warrant.*

We cannot help thinking, that the moral objections are both too strongly, and too coarsely set forth by the author. We have seen cases in which the soothing influence of the inhalation of chloroform produced signal benefit; and we should indeed be sorry to tell any of our patients that the alternative between taking and abstaining from chloroform, was simply the alternative between the endurance of transient suffering and *drunkenness*—that condition so repulsive, even in its name, to every rightly constituted mind. On medical, on social, and on moral grounds, we object to chloroform inhalation being made a matter of mere routine in labour; but as we believe that exceptional cases occur, in which its judicious employment may not only relieve from anguish, but even save life, we protest against this valuable resource of the obstetric art being branded by a dishonourable name. From these remarks, it

will be obvious that we cannot go along with all that Dr. Ramsbotham advances in the following passage.

"No doubt it is a great bait to offer, and a great boon to promise to a woman, who is looking forward with anxiety to her approaching confinement,—that she is to be lulled into a sweet, quiet, placid sleep,—to be perfectly unconscious of all the distress and suffering attendant on her labour; and to be recalled to the world, only by the grateful cries of her infant. But if the case were put fairly and honestly before them, if they were informed that they might probably be made '*dead drunk*', but must certainly be reduced to that condition which the law designates '*drunk and incapable*', how many, it may be asked, of our high-born dames, how many a woman possessing common feeling, how many, indeed, removed above the very lowest orders of society, would be found to avail themselves of the immunity from suffering which anæsthetics hold out, at such a price, and at such a sacrifice of moral obligations? I cannot help thinking, and, I may add also, hoping, for the honour of female nature, that those who have acceded to the proposal have been betrayed into acquiescence by the belief, that they were to be merely steeped in sleep, and not drowned in intoxication. And yet nothing seems more clear than that they must be cast into the intense stupefaction of drunkenness, before they can be rendered oblivious to the mental anxieties or corporeal sufferings incidental to their situation.

"I must repeat, emphatically, that *this state is not sleep, but drunkenness*. The only kind of sleep, if sleep it can be called in the least degree analogous to it, is that death-like insensibility into which a person is hurled when stupified by spirituous liquors—in a state but little removed from apoplexy; and which, indeed, in very many instances, has eventuated in a seizure of that dreadful malady. Even from the stupor induced by opium, a patient can be roused by loud and sudden noise, as the firing of a pistol, or by violent usage; but no power on earth could recal to his senses and his sensibilities one overwhelmed by the deadening influence of the vapour of chloroform, so long as it retains within its grasp the unconscious object of its irresistible might." (pp. 179-80.)

It cannot be denied that death has in several well observed and honestly recorded cases, resulted from the inhalation of chloroform; and that it is much to be feared, that a fatal issue has occurred in many more cases than have yet been published. In some of these instances, the want of due care in administering the drug, such as excluding the supply of atmospheric air, which is essential to life, or the too long continuance of the inhalation, explain the catastrophe, and at the same time point out the simple precautions by which it may be avoided in other patients. Moreover, it cannot be concealed, that persons have recovered with difficulty, and that some have even been fatally poisoned by chloroform, although every precaution was taken by careful and skilful practitioners. It is from a thorough conviction of the truth of these statements, that we maintain that anæsthesia in labour ought not to form *the rule*, but *the rare exception*: the cases for its employment being those in which the danger from prostration and exhaustion, induced by pain or mental irritability, or an obstinate refusal to submit to necessary operative interference, seems to be more certainly hazardous than the danger to be dreaded from the chloroform. In some cases of turning, uterine relaxation induced by complete anæsthesia may be very useful. In ordinary cases of operative midwifery, we would not sanction recourse to anæsthesia; but we concur with Dr. Ramsbotham in declaring, that such cases as those to which he points in the following extract demand this practice, and there are others also equally justifying the proceeding.

"Suppose, for instance," says Dr. Ramsbotham, "that the foetus lay transversely in utero, the membranes perhaps having been ruptured for some hours, if the patient obstinately refused to submit to delivery, as I have known to be the case; if she were very boisterous and riotous, and would

neither be persuaded nor controlled, I should deem it my duty, notwithstanding, to deliver her, not only for her own sake, but to preserve the child if still alive; and if that could be accomplished in no other way, I should not hesitate to employ etherization, and take advantage of the quiescence then induced, for the purpose of performing the operation: being thus driven to a choice of evils, and preferring even the dangers of chloroform to the chance of seeing the uterus rupture, or the woman sink from the exhaustion of fruitless and vain exertion. The same principle might guide me also in some other operative cases of the same kind, such as where the forceps were required, and their application perseveringly resisted. But in the ordinary operations of obstetric medicine, I should reject the hazardous cooperation of anæsthetic vapours as I would in the more natural and common cases."

There is one grave objection to the promiscuous or routine induction of COMPLETE ANÆSTHESIA in labour, which appears to us to be far too generally lost sight of; and that is, *the tendency which unconscious delivery has to impair the maternal sentiment*, which is so essential to the wholesome moral and physical training of the offspring. Mothers, and not hirelings, ought to mould the minds of the young; mothers only can give a healthful tone to a coming generation. It is not good, then, to do anything which tends to strangle, or even to weaken, the maternal sentiment, which creates and sustains a power by which a mighty and a benignant influence is exerted on the tender mind. The anxieties of pregnancy, the sorrows of child-bearing, and the cares of lactation, are clearly God's provisions for expanding and giving strength to this maternal sentiment; and it cannot be right, except to save life or avert danger to the health of mother or infant, to frustrate the plans of Divine Wisdom. Women ought, therefore, when they can, to suckle their children; and they ought not, without a strong reason, and at even the smallest risk of life, to bear their offspring in a *complete and profound unconsciousness*; for this is the attractive bait offered, though perhaps not fully given, by many modern candidates for midwifery practice. A case, reported in a recent number of the *Union Médicale*, by M. Chailly-Honoré, and his remarks upon it, form no inapt illustration of the idea to which we are now endeavouring to give prominence. The maternal instinct was evidently nipped in the bud, as will be seen from the following narration.

A woman who had been delivered for the first time by craniotomy, by M. Paul Dubois, and whom M. C.-Honoré had delivered of a living daughter by the forceps in her second accouchement, a third time became pregnant. In opposition to urgent remonstrance, she objected to art being had recourse to, until the full period had arrived. The pelvis of this woman not being more than eight centimètres (3.15 inches) in diameter, it was not possible that delivery could be so easily effected as on the second occasion, when the birth was before the time. The induction of premature labour offered the best chance of safety, both to mother and child—the only chance of safety to the latter. But this woman having been under the influence of chloroform during the first and second operations, and not having experienced the pains of labour, preferred waiting her full time, desiring to be delivered without pain, at the sacrifice of her child. The practitioner was in these circumstances obliged to wait. When the woman was in labour, he applied the forceps, to assure himself that it was not possible, as in the second labour, to extract the child alive. Chloroform was not used, in order that the maternal sentiment might be aroused, she having refused the resources of art at a time when it would have been beneficial to herself and her offspring. A short trial of the forceps proved the inutility of their application. The lesson was sufficient; chloroform was then administered, and she was delivered by craniotomy. M. Chailly-Honoré adds, "This circumstance revealed to me an objection to anæsthesia, of which I had not previously thought; but I trust that in future this woman will realise her duty, and not compel me to sacrifice a third infant."

GALVANISM, as an excitant of the flagging uterus, has of late greatly engaged the attention of accoucheurs. It has been strenuously advocated by Dr. Radford, and talked slightly of by Dr. Simpson. Regarding its value, Dr. Ramsbotham thus expresses himself.

"I am inclined to think that electrical shocks—particularly derived from the galvanic battery—would excite the flagging powers of the uterus under labour, and perhaps even induce action *ab initio*. This is a means, however, of which I have never myself made a trial; and I only judge by analogy in consideration of the influence the electrical fluid exerts over the nervous system generally, and through that system over muscular fibre."

We cannot avoid remarking, that the eagerness for novel methods of practice is at present excessive in the obstetric department of medicine; and that it may probably be owing to this cause, as much as to the evidence adduced in favour of the galvanic stimulus, that it has been so well received by the profession. If the old methods—many of them originally empirical—were studied and analysed by accoucheurs, we feel persuaded that few emergencies would occur, which did not suggest their appropriate and specially applicable methods of rousing the uterus to expulsive efforts. If hours of suffering have brought on exhaustion, if the strength be ebbing, and the pulse feeble, all our means can be of small avail till the system is recruited. At an early stage especially, but also at a later period of labour, this may often be best accomplished by a full opiate. By the proper use of this medicine, or by a draught of hot brandy and water, a lingering labour may often be converted into a quickly proceeding one; or, by premising these measures, the uterus may be made to respond to stimuli which before it had refused to obey. As Dr. Ramsbotham remarks, "we may sometimes succeed in rendering the uterine contractions stronger and more efficient by changing the patient's position, particularly from the recumbent to the upright posture; and as this is a very simple means, as it is often useful, and as the change brings her great relief, she may be advised to sit, stand, or walk, as her own inclination dictates. The effect is most probably produced by the gravitation of the head upon the os uteri". A broad bandage, applied round the body, so as not only gently to compress the uterus, but also to bear it somewhat down upon the pubic bones, is a proceeding which we have often tried successfully as a means of stimulating the uterus before the birth of the child. The bandage—with an easy noose and a well-shaped pad—is likewise the best and the simplest method, of effecting expulsion of the placenta, and arresting post-partum hæmorrhage. The nurse, or even the patient herself, may, under direction of the practitioner, regulate the amount of pressure; whilst he at intervals adopts other accessory measures, such as rubbing or grasping the womb through the abdominal walls, when the bandage is temporally relaxed, introducing the fingers within the os, or administering an enema of cold water or of turpentine. These methods we would infinitely rather trust to, than distract ourselves by seeking for a galvanic apparatus, or abandoning them to make trial of one. The application of cold is now well understood to be useful only when restrained within due limits: that is to say, so long as the cold acts as a stimulant to uterine contraction, or is required to form a temporary plug, by coagulating the blood at the mouths of the open sinuses. Cold drenching has, when pushed too far, induced fatal prostration of the vital powers, as well as has uterine flooding. It ought never to be forgotten, that cold, though a valuable agent in such cases, is one liable to be abused, and that it ought not to be trusted to singly, but used in conjunction and alternation with other stimuli.

TURNING IN HEAD PRESENTATIONS IN CASES OF NARROW PELVIS, is a practice advocated by Dr. Simpson, in a series of papers lately published in the *Provincial Medical and Surgical Journal*; and in a more recent essay, in the *Edinburgh Monthly Journal of Medical Science*, of which a notice will be found at p. 364 of this number.

So far as we can see, the objections of Dr. Ramsbotham are valid. He says: "It is impossible to introduce the hand into the uterus and turn a child, even when the promise appears most favourable, without compromising the woman's security to some extent; and if this operation be undertaken after the membranes have been broken some time, and while the uterine parietes are strongly embracing the fetal body, the peril to her will be greatly aggravated. This will be regulated principally by the degree of contraction that the uterus has taken on itself; and that will in a great measure depend on the length of time that has elapsed since the liquor amnii was evacuated. The danger to the mother consists in the risk that her soft structures—particularly the uterus—should be bruised or lacerated by the operator in the introduction of his hand, or by the irregularities of the fetal body and limbs, as it revolves round its own axis, in the efforts we make at extraction." (p. 212.)

After stating additional objections, the author says:

"There is only one kind of case in which I would be inclined to sanction turning, in consequence of diminished capacity of the pelvic brim:—if the clear available space in the conjugate diameter were about three inches and a quarter, or from that to three inches and a half; if the woman's previous children had all been born dead; if the membranes were still whole,—or the liquor amnii having been evacuated, the uterus had not contracted closely around the child's body, the head being perfectly free above the pelvic brim, not having as yet descended at all into the cavity; and if the attendant were in the habit of performing obstetrical operations, had acquired a certain dexterity in regard to them, and had perfect confidence in himself. Under such circumstances, this means of delivery might be put in practice, as an experimental measure, in the hope of saving the child's life; but even then, not till the patient was informed of the intended operation, its principle explained to her, its objects detailed, and her concurrence and acquiescence fully obtained." (p. 213.)

TREATMENT OF PLACENTAL PRESENTATION. The rule of practice in this formidable class of cases is not, it appears, as yet settled. Dr. Ramsbotham, we regret to find, opposes the doctrine which Dr. Simpson revived in 1844, and which he has since so zealously and ably supported; viz. that complete separation of the placenta is generally a tolerably easy, and always an absolute method of arresting the hæmorrhage, which is the great and imminent source of danger in these cases. If it be true, as Dr. Ramsbotham believes, that the blood flows from the uterine, and not from the placental vessels, then of course he has good ground for an *à priori* argument against the soundness of the new practice; but, on the other hand, if Dr. Simpson has established—which we think he has—by his own researches, and by those of others, that the drain is from the torn placenta, and not from the uterine veins; if it be true, as he says, that the "vascular maternal cells, or immensely dilated capillaries, which contain the blood of the mother in the placenta, communicate so freely with each other throughout all the different portions of the organ, that the blood which has access into one part, may in this way be rapidly diffused into the other portions of the placental mass", then is another aspect given to the question, then does it become impossible to resist the conclusion, that the surest method of giving safety to the mother, is to detach the placenta from its connexions with the uterine parietes. The statistical argument, as set forth by Dr. Simpson, is very strong; but we confess that his anatomical and physiological reasoning is of itself nearly sufficient to convince us of the soundness of the practice which he advocates.

Coroners' inquests supply many cases of women dying from hæmorrhage, a few hours after natural labour, in the hands of ignorant and officious midwives. The history of such cases is generally pretty much as follows:—The placenta not being quickly expelled, the meddlesome midwife, anxious to show what she can achieve, attempts to pull it away by traction of the cord, which breaks; and she then, amid gushes of blood, rudely withdraws portions of

the placenta; but the hæmorrhage becomes alarming, and, in spite of plugging, compresses soaked in vinegar and water, etc., the patient dies from flooding. An inquest is held: the medical man who has examined the dead body states, *inter alia*, that he found a small portion of placenta adhering to the tolerably contracted uterus; and he adds, either in charity or in ignorance, that this trifling remnant could not have had anything to do with the fatal catastrophe. A case of this description came before the coroner for East Surrey within the last few weeks; and we have notes of another instance, almost identical in its details, which was made the subject of inquiry before the coroner for Westminster three years ago. Cases of this description undoubtedly support the conclusions of Dr. Simpson, and discountenance those of Dr. Ramsbotham, as to the source of the hæmorrhage; and they likewise point out that, if we are to arrest hæmorrhage by detaching the placenta, in cases of placental presentation, we must take care to accomplish the work of separation *completely, and beware of augmenting danger by heedlessly wounding the placenta whilst it remains joined to the womb.*

Hæmorrhage, Dr. Ramsbotham urges, takes place after the placenta is entirely expelled. He says (p. 403): "If the blood lost were afforded by any *placental* vessels, hæmorrhage should never appear after the placenta was entirely detached. Yet we often have to combat profuse and violent, even fatal flooding, not only after the complete separation of that mass, but even after its extraction from the mother's person altogether." To what is stated in the last sentence, we of course freely assent; but, in place of the "*even after its extraction*", in the last clause, we would say, "*especially after its extraction*"; for, till the womb is well contracted, we look upon the presence of the placenta within its cavity as the best possible safeguard against hæmorrhage: it makes salutary pressure upon the large tortuous vessels of the uterine parietes, and, by bringing their sides into apposition, supplies to a certain extent the want of uterine contraction, and prevents, what would otherwise happen, a gushing of blood from their gaping mouths. *Separation and removal* of the placenta are terms of very different import; and in certain circumstances, in which the former is right practice, the latter may be a wrong proceeding. Our remarks on this subject might be expanded, and profitably illustrated; but, upon the present occasion, we can add no more, as we have not left to ourselves any remaining space. We would, therefore, simply remark, that we recognise two sources of intra-uterine hæmorrhage, which we think can be very easily distinguished from each other: there is, *first*, direct hæmorrhage from the uterine sinuses; and, *second*, indirect hæmorrhage, or hæmorrhage from the mother through the placenta. The former is less apt to occur to a dangerous degree, when the contents of the uterus make normal pressure on the vessels, or when the same is accomplished by adequate *post-partum* contractions of the organ; whereas the latter is not much controlled by these causes, and takes place simply in virtue of the continuance of the natural influx of maternal blood into the placental cells, and its influx through a solution of continuity in the placenta, in place of its return to the circulation of the mother, after having supplied the fœtus.

The general impression conveyed by our perusal of Dr. Ramsbotham's work has been exceedingly favourable; and we are inclined to think that it is, upon the whole, the most useful treatise on practical midwifery which a practitioner restricted to a few chosen books can select for his library. The number and the aptitude of the illustrations render it peculiarly suited to the tyro, who, from the necessarily narrow limits of his clinical experience, is not so easily carried along by mere descriptions, as is the veteran practitioner. The author ought, we must say, to have acknowledged the sources whence his pictorial illustrations have been derived. Many of them are familiar to all who are acquainted with the older literature of midwifery; and though improved in appearance, they are still old friends, and, therefore, deserving of a polite recognition.

1. THE NATURAL HISTORY OF THE VARIETIES OF MAN. By ROBERT GORDON LATHAM, M.D., F.R.S., late Fellow of King's College, Cambridge; one of the Vice-Presidents of the Ethnological Society, London, etc. pp. 573. London: 1850.
2. MAN AND HIS MIGRATIONS. By R. G. LATHAM, M.D., F.R.S., etc. pp. 250. London: 1851.
3. ETHNOLOGY OF THE BRITISH COLONIES AND DEPENDENCIES. By R. G. LATHAM, M.D., F.R.S., etc. pp. 264. London: 1851.

In the work, the title of which stands first on our list, we find evidences of extensive research and cautious reasoning. Ethnology is a science of comparatively modern date; and, as such, is as yet imperfect, though progressive—waiting for its perfection till all the necessary elements have been obtained, and till some master mind shall group them in harmonious combination. And it is by no means the lowest recommendation in DR. LATHAM'S works, that their author does not pretend to make any stronger assertions, or any more exact classification, than those, of the truth and correctness of which he is satisfied in his own mind.

Dr. Latham divides the human species into three primary varieties—Mongolidæ, Atlantidæ, and Iapetidæ. The geographical distribution of the former is Asia, Polynesia, and America; of the second, Africa; and of the last, Europe. These are again parted into divisions, subdivisions, nations, and tribes; regarding each of which a concise statement is given of the locality, language, physical conformation, government, customs, etc. The work is concisely written, and will supply abundant food for improving reflection to any one who will thoughtfully peruse it.

The second and third works contain the substance of lectures delivered in Liverpool and Manchester, in the early part of last year: and, to those who want either the will or the ability to follow the author through his larger volume, we can recommend the smaller books, as written in a clear style, and calculated to impart interesting information.

To write an analysis of Dr. Latham's works would be difficult—perhaps impossible; and we could scarcely do justice to them by giving extracts; in other words, they must be read *as a whole*, and read attentively. We must remember, as we read, that their object is to *determine the affinities of the varieties of man*.

LANGUAGE IN CONNECTION WITH ETHNOLOGY. Dr. Latham enjoys a high reputation as a philologist; and, as such, has done great service to the student of the English language. We, then, may reasonably expect to find him attaching a very high importance to language, as a means of determining ethnological relations and differences; and yet he does not appear to underrate the value of such elements of classification as physical conformation, religious rites, customs, etc. With regard to language, he expresses himself in the following terms, in his work on *Man and his Migrations*:

"It is the elements of uncertainty, so profusely mixed up with almost all the other classes of ethnological facts, that give such a high value, as an instrument of investigation, to *language*; inasmuch as, although two different families of mankind may agree in having skins of the same colour, or hair of the same texture, without, thereby, being connected in the way of relationship, it is hard to conceive how they could agree in calling the same objects by the same name, without a community of origin, or else either direct or indirect intercourse. Affiliation or intercourse—one of the two—this community of language exhibits. One, to the exclusion of another, it does *not* exhibit. If it did so, it would be of greater value than it is. Still, it indicates one of the two; and either fact is worth looking for.

"The value of language has been overrated; chiefly, of course, by the philologists. And it has been undervalued. The anatomists and archæologists, and, above all, the zoologists, have done this. The historian, too, has

not known exactly how to appreciate it, when its phenomena came in collision with the direct testimony of authorities; the chief instrument in his own line of criticism.

"It is overrated, when we make the affinities of speech between two populations *absolute* evidence of connexion in the way of relationship. It is overrated, when we talk of *tongues being immutable*, and of *language never dying*. On the other hand, it is unduly disparaged, when an inch or two of difference of stature, a difference in the taste in the fine arts, a modification in the religious belief, or a disproportion in the influence upon the affairs of the world, is set up as a mark of distinction between two tribes, speaking one and the same tongue, and alike in other matters. Now, errors of each kind are common." (pp. 77-9.)

In connexion with, and as a commentary on, the words of Dr. Latham, let us hear what is said by the venerable *savant*, Alexander von Humboldt. He says: "Languages, as intellectual creations of man, and closely entwined with his whole mental development, bear the stamp of national character, and as such are of the highest importance in the recognition of similarity or diversity of race: the descent of languages from a common origin is the conducting thread which enables us to tread the labyrinth, in which the connexion of mental and physical powers and dispositions presents itself under a thousand varied forms. . . . But here, as in all fields of ideal speculation, there are many illusions to be guarded against, as well as a rich prize to be obtained. Positive ethnographical studies, supported by profound historical knowledge, teach us that a great degree of caution is required in these investigations concerning nations, and the languages spoken by them at particular epochs. Subjection to a foreign yoke, long association, the influence of a foreign religion, a mixture of races, even when comprising only a small number of the more powerful and more civilised immigrating race, have produced in both continents similarly recurring phenomena; viz., in one and the same race, two or more entirely different families of languages; and, in nations differing widely in origin, idioms belonging to the same linguistic stock. . . . But language is an integral part of the natural history of the human mind."¹

Subject to the cautions expressed above, we believe the affinities of languages to be identical with the affinities of the people speaking them:—in other words, that a system of ethnology must have philology as its principal basis.

Dr. Latham lays down an ETHNOLOGICAL METHOD at p. 418 of his work on the *Varieties of Man*. Presuming that Tierra del Fuego, Easter Island, Van Diemen's Land, the Cape of Good Hope, Lapland, and Ireland, are the six extreme points of population; that is, from which no population has been supposed to have proceeded elsewhere, he says: "In working the problem as to the original centre of population,—the birth-place of the human kind,—it is these six points with which we should begin, and so seek their point of convergence. This is of two kinds, *geographical* and *philological*. The first is that part of the earth's surface, where the distance from each is equal (or where it nearest approaches equality); the second, the locality of that language which has, at one and the same time, the greatest likeness to the Teapi (of Easter Island), the Tasmanian, the Fuegian, the Hottentot, the Lapponic, and the Gaelic." In his work on *Man and his Migrations*, he works out this method; and by it, perhaps as accurately as the present state of the science will allow, and subject to the difficulties presented by certain *unplaced stocks*, the Americans, Iberians, Albanians, Basques, etc.—he traces back the streams of population to a central source, which "he believes to have been somewhere in intratropical Asia, and to have been the *single*

¹ HUMBOLDT'S *Cosmos*, translated by Lieut.-Col. Sabine. Eighth Edition, vol. i, pp. 354-5.

locality of a single pair". It would be superfluous for us to point out how much interest must attach to the confirmation, through more complete investigation, of this supposition of Dr. Latham. Even though some commentators hold, that the common origin of mankind is not absolutely laid down in inspired history, yet the proof of this doctrine, from scientific and sound data, might be useful in silencing scoffers and infidels.

In conclusion, we will extract the following important remarks from pp. 524-6 of the work on the *Varieties of Man*:

"THE ACCUMULATION OF CLIMATOLOGIC INFLUENCES, AND THE ANGLE OF THE LINE OF MIGRATION. Other conditions being equal, why do two tribes, under the same degree of latitude, differ? *e.g.* Why are not all tribes under the equator like the negro of the Niger, and *vice versa*?

"Without venturing upon the enumeration of *all* the elements of this difference, I will indicate *one*, assuming only that the climatological influences of a certain degree of latitude have *some* effect, and that *some* effect must be the result of the force in question. I call it *the accumulation of climatologic influences*.

"Let a certain locality under a given degree of latitude (say the west coast of Africa, under the equator) be peopled by a line of population migrating from Denmark, under one supposition, and from Bombay, under another, the line of migration being, for convenience sake, supposed to be a straight one.

"From Denmark, such a line, at its junction with the point in question (say the mouth of the Gaboon river) would form with the equinoctial line, and with each intermediate degree of latitude, a right angle.

"From Bombay, the angle would be a very acute one.

"Now, just as the angle formed by the line of latitude and the line of migration is acute, the approach made by a moving population towards any particular point under that line of latitude is gradual; and in proportion as such an approach is gradual, the number of generations over which a condition of climate, like that of the final point, has been acting, is increased; and in this way its influences become *accumulated*.

"Thus, assuming Bombay to be the original cradle of our species—

"The Gaboon negro is the descendant of ancestors who, before they reached their present abode, had moved in a line lying almost wholly within the tropics; whereas—

"The American of Quito is the descendant of ancestors who passed through the tropics by the shortest cut (*i.e.* at nearly a right angle with the equator), themselves descended from progenitors upon whom the influences of the several North-American, Arctic, and Siberian climates had been at work.

"In the latter case, how great have been the changes, and how rapid the transitions from the conditions of one latitude to another; how different, too, the effects upon a series of generations moving along a line a thousand miles long, from north to south, from those upon a stream of population propagated along an equal distance east and west.

"The former takes them through half the latitudes of the world. The latter keeps them within a single zone,—arctic, equatorial, or temperate, as the case may be; the climatological influences seconding, instead of counteracting those of blood, and that in a ratio progressing geometrically."

UNIVERSAL FORMULARY: containing the Methods of Preparing and Administering Medicines. By R. EGLESFELD GRIFFITH, M.D. Second Edition. Rl. 8vo. pp. 567. London, and Philadelphia: 1851.

This is a well arranged, and practically useful Formulary. The articles are arranged alphabetically; and in addition to an admirable "General Index", there is likewise given an "Index of Diseases and their Remedies". In the latter, we have, set down under the name of each disease, the remedies which are in most repute for its cure, with a reference to the pages in which they are treated of.

The work also contains remarks on the following topics:—Weights and Measures, Thermometrical Scales, Management of the Sick-room, Doses of Medicines and Rules for their Administration, Dietetic Preparations, Baths, Blood-letting, and Poisons.

DICTIONARY OF MEDICAL SCIENCE, containing a Concise Explanation of the Various Subjects and Terms of Physiology, Pathology, Hygiene, Therapeutics, Pharmacology, Obstetrics, Medical Jurisprudence, etc.; with the French and other synonyms; Notices of Climate and of celebrated Mineral Waters; formulæ for various Official, Empirical, and Dietetic Preparations. By ROBERT DUNGLISON, M.D., Professor of the Institutes of Medicine in Jefferson Medical College, Philadelphia. Eighth Edition, Revised and greatly Enlarged. Rl. 8vo., in columns. pp. 927. Philadelphia: 1851.

DUNGLISON'S DICTIONARY is a valuable book of reference for editors and authors. The articles are much more numerous, but they are not so comprehensive and satisfying as those of Hooper and Cooper: and there is no attempt made to give bibliography, nor in any way to supersede Cyclopædias or Text-books. The work is, in fact, a good dictionary and little more. Occasionally, however, the anatomical descriptions, and physiological and therapeutical notices, are tolerably complete. It is not easy, by mere description, to convey an accurate idea of the plan and manner of execution of a book of this kind; and one or two extracts hardly present a fair criterion; but as affording to our readers some opportunity of judging of the way in which Dr. Dunglison has performed his task, we subjoin two passages, taken *ad aperturam libri*.

"INFLUENZA. The Italian for 'Influence.' *Influenza Europæa*, *Influen'tia*, *Catar'rhus epidem'icus*, *Febris catarrha'lis epidem'ica*, *Catar'rhus à conta'gio*, *Rheuma epidem'icum*, *Morb'us Verveci'nus*, *M. Catarrha'lis*, *Syn'ochus catarrha'lis*, *Defluc'io catarrha'lis*, *M. Ariet'is*, *Cephalal'gia contagiosa* (epidemics of the 16th and 17th centuries): (F.) *Tac*, *Ladendo*, *Quinte*, *Florion*, *Coqueluche*, *Baraquette*, *Générale*, *Grippe*, *Follette*, *Grenade*, *Coquette*, *Cocote*, *Petite Poste*, *Petite Courier*, *Allure*, *Fiebre catarrhale épidémique*; *Influence*, *Epidemic catarrh*. A severe form of catarrh occurring epidemically, and generally affecting a number of persons in a community. See Catarrh, epidemic. Gluge, from his investigations, considers that the following is the chronological order of the return of the influenza:—14th century, 1323, 1326—15th century, 1410, 1411, 1414—16th century, 1510, 1557, 1562, 1574, 1580, and 1593—17th century, 1658, 1669, 1675, 1693—18th century, 1708, 1712, 1729, 1732, 1733, 1742, 1743, 1761, 1762, and 1775—19th century, 1800, 1803, 1831, and 1833. To these may be added 1837, and 1843.

"INFLUENZA EUROPÆA, Influenza.

"INFLUEN'ZOID, *Influenzoi'des*. An expressive but hybridous compound: from *influenza*, and *ειδος*, 'resemblance.' Resembling influenza.—Dr. T. Thompson." (pp. 473-4.)

"OVUM, *ωον*, *Oön*, an egg. The eggs of poultry are chiefly used as food. The different parts are, likewise, employed as medicine. The shell, *Auran'tum*, *Auran'tum*, (F.) *Coque d'œuf*, *Coquille d'œuf*, calcined, is esteemed an absorbent. The Oil of the egg is emollient, and is used, externally, to burns and chaps. The Yolk or Yelk of the egg—*Vitel'lum seu Vitel'lus ovi*—renders oils, &c., miscible with water. Eggs, when light boiled, are easy of digestion; but, when very hard-boiled or fried, they are more rebellious.

"Egg brandy is made by taking of Brandy *f̄iv*; *Cinnamon water*, *f̄iv*; the yolks of two eggs; Sugar, *ʒss*; and Oil of cinnamon, *gtt. ij*. Mix the yolks of the eggs first with the water, the oil and the sugar, stirring constantly. Then add the brandy little and little, until a smooth fluid is formed. It is an agreeable mode of giving brandy in adynamic states.

"In *Pharmacy, white of egg*, which consists chiefly of albumen, is used for clarifying syrups, &c. *Yolk of egg*, (F.) *Jaune d'œuf*, beaten up with warm water and sugar, and *aromatized* with orange-flower water, forms an emulsion, which is emollient, and known under the name *Lait de poule*, or *chicken's milk*.

"Anatomists give the name *Ova*, *O'vula*, *O'vules*, (F.) *Œufs*, to round vesicles, containing a humour similar to the yolk of egg, which are situate in the ovaries of the female, and, when fecundated, constitute the rudiments of the foetus. During gestation, the embryo and its enveloping membranes retain the name of *Ovum*, (F.) *Œuf*. The changes induced in the mammalia after impregnation greatly resemble those in the bird.

"OVUM, Testicle—o. Hystericum, see Clavus hystericus." (pp. 630-31.)

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1. MEDICAL DIRECTORY FOR SCOTLAND: 1852. UNIFORM WITH THE LONDON AND PROVINCIAL MEDICAL DIRECTORY. London: 1852.
 2. MEDICAL DIRECTORY OF IRELAND: 1852. UNIFORM WITH THE LONDON AND PROVINCIAL MEDICAL DIRECTORY. London: 1852.

Slender and tiny though these volumes be, much of their bulk is made up of identically the same materials. The volume for Scotland contains 176 pages 12mo.; and of these 52 are to be found in the volume for Ireland: moreover, these same 52 pages are likewise mere reprints, *verbatim et literatim*, from the *London and Provincial Medical Directory*: it therefore seems an error on the part of the publisher to have rated these volumes at so high a price as six shillings each, or five shillings to subscribers. We would strongly urge upon the proprietors of the three Medical Directories the propriety of embracing in future years their three volumes in one, and of making that one volume smaller than the *London and Provincial Medical Directory* now is, by expunging the regulations of the various licensing bodies, which are chiefly interesting to students, and which are annually given *in extenso* in the "students' number" of the *Lancet*, and copies of which can always be had for the asking at the different Halls and Colleges. Now that the preliminary difficulties and expenses have been overcome, we imagine the united Directories might be offered at less than the price of one of the volumes now before us, without any risk of loss, and, we imagine, with a certainty of commercial benefit. This, however, is a matter of business with which we have no right to interfere.

As might be expected, errors abound in both the Scottish and Irish Medical Directories; but the mistakes and omissions are not more numerous than might be anticipated in a first attempt. In Scotland, the number of unlicensed practitioners is very great, especially in rural villages, and to that circumstance we ascribe the great number of blank returns. There are, also, however, a good many erroneous designations, several of which, we observe, arise from the omission of the word "late".

The names of Dr. Henderson and other homœopaths are inserted in the volume for Scotland; and though these gentlemen have been expelled from the Medico-Chirurgical Society of Edinburgh, and thus virtually ejected from the ranks of the profession, their names are in no way distinguished or separated from those of regular practitioners! This is certainly wrong. But the worst feature which we have observed is a quack advertisement, from which the following is an extract.

Mr. Blanque "respectfully informs the Members of the Medical Profession, Clergymen, and the Public generally, that at his Laboratory they will always find recent and accurately prepared Homœopathic Medicines, Tinctures, Globules, Triturations, Dispensing Chests, and Visiting Cases for Tinctures or Globules of every description, for the profession or for domestic use. All works on Homœopathy may be had at this establishment. N.B." Mr. Blanque "will be happy to furnish medicines gratuitously to any Profes-

sional Gentleman desirous of testing the efficacy of Homœopathic Preparations."

We warn the proprietors and compilers of these Directories that their lax views of propriety have already seriously damaged the character of their publications, and that the present latitudinarian policy with which they are conducted may threaten their existence. If a publisher were to advertise Paine's *Age of Reason* on the fly-leaves of the *Clergy List*, the men who call themselves liberal in matters of religion would doubtless applaud the act as magnanimous, but clergymen would feel insulted, and would with indignation withdraw their support; so we apprehend will be the issue in the case now under consideration, unless a prompt amendment be guaranteed. The believers in rational medicine will, we predict, soon cease to subscribe to a work professing to be a Medical Directory, but which, in exchange for a pecuniary tribute, affords a medium of publicity to quacks who heap contempt upon them and their creed, and seek to compass its subversion. No man can serve two masters of opposing interests; and the proprietors of the Medical Directories must, before another year, take their stand for, or against the profession. From a sincere desire to ensure the continuance and increased success of these important publications, we have now and formerly stated frankly opinions which we believe to be not only sound, but in accordance with those of the great body of the profession in the United Kingdom.

THE STOMACH AND ITS DIFFICULTIES. By SIR JAMES EYRE, M.D. Edin. 12mo. pp. 152. London: 1852.

This, like everything which has proceeded from the pen of SIR JAMES EYRE, bears the impress of lofty genius, and profound practical sagacity; as has been already stated in various newspapers. The book, as the Yankees say, has "quite altogether produced a sensation"; and so great were its merits felt to be by the Council of the Royal Medical and Chirurgical Society, that ere it had been a month before the profession, they eagerly absorbed the author into their body. This is as it ought to be: but the mark of merit would have been far more honourable in the eyes of the profession, were it not for the notorious fact that an election, so far as the Society itself is concerned, is always a mere farce;—often an act of galling penance, under which independent men do greatly wince. As Fellows of the Society, we have no hesitation in declaring that, had the most unfit person's name been introduced into the house list, in place of that of any one of those who were "elected", a large opposing majority could scarcely have excluded that name; and why? Simply because there must be a combination of the malcontents in favour of some one selected Fellow to insure an erasure from the "*house list*". As all the elections upon this occasion are so satisfactory, we have thought the opportunity a good one for renewing our protest against the present close system; and of reiterating what we previously said, that the existing bye-laws are in direct violation of the charter *by which the Fellows ought to have in their own hands the choice of office-bearers*. We are far from wishing to take away all salutary suggestive influence from the Council; but we think that the prevailing feeling of the Society ought to be responded to, and one of the several plans talked of, forthwith recommended, as a substitute for the present obnoxious and illegal bye-law, by which the elections to the posts of honour are made no elections at all, and converted into *compulsory adoptions of the nominees of the Council*.

We return now to the work under consideration, lest our readers, including probably the accomplished author, should accuse us of preaching a sermon from a wrong text.

Sir James, as on former occasions, lays much stress upon the benefit which is to be derived from the use of oxide of silver in dyspeptic affections; and he likewise insists upon the advantages of pleasant and funny company at

dinner, a sentiment in which we cordially agree. The following extract brings out his meaning:—

JESTER FOR AFTER-DINNER USE. “The great promoter of digestion is a contented mind: this is the *spirit* which is required to help on the great meal, exciting the joyous joke, and all the hearty amiable feelings. Those who are wealthy should keep a jester for after-dinner use, as formerly; he would be well worth his keep, and his salary too, if he were a clever fool! A toady does not do—he is always *in harness*! He never gambols or kicks up.” (p. 55.)

THE AUTHOR’S JESTS: THEIR SOURCE, AND THEIR APOLOGY. Sir James warmly advocates *fun* as an adjunct to his *physic*, and gives samples of his own amusing conversation; confessing that he could not resist adopting a style which some may censure as “not sufficiently grave”. He could not help writing as he had done—for “out of the abundance of the heart the mouth speaketh”. It is thus that he excuses his want of *gravity*:—

“A man’s nature must be changed, if he who is daily and hourly thankful that he is physically not as some other men are, should not only think, but speak and write from the impulse of a contented, nay cheerful mind. Let it be remembered, also, that in medicine, happily, the age of wigs and canes (gold-headed) is past; and well I wot, if there be not something of no ordinary calibre in the head of the physician, he will eventually be distanced in the race, in this stirring go-a-head age.” (*Preface*.)

The following are two very pleasant specimens of the author’s head “calibre” for assisting the stomach out of its difficulties, by originating and reporting witty sayings and doings at and about dinner:—

“It may be remembered by some of my readers how commonly pressing to take more was practised formerly, not only on those that needed it, but on those who needed it not—on myself, for example. . . . I once escaped at table the well meant persecutions of the kind-hearted wife of a medical friend, from whom, ever and anon, came the inquiry of—What I would take next? This had been so often repeated, that I had begun to look round, fearing that my character as a teacher by example might suffer, and replied that, if she pleased, *I would take BREATH*. It was saucy and ungrateful, but it was good-naturedly received and understood.” (p. 42.)

Next time, half of the joke was the patient’s. “On my admonishing a patient on one occasion (who winced under it) for his supposed habit of eating too fast, and telling him that *bolting* the food was a *bar* to digestion, he said, ‘You speak *ironically*, doctor!’” (p. 50.)

These are capital stomach-relieving puns. Such of our readers as desire to cultivate this new department of medicine, we recommend to explore and study the treasures contained in Dalton Barham’s *Life and Remains of Theodore Hook*. Theodore was pre-eminent for prandial puns—in fact, just such a jester as Sir James recommends; for, though a savage fellow in “BULL”, he was as mild and sportive as a lamb in social conclaves. His rules for punning are well worth the attention of all stomach-difficulty doctors. One doctor clearly ought not to use the puns of another: this seems a *great difficulty*; but Theodore lays down the law as absolute. Read this:—

“The proverb says, ‘wits jump’; so may punsters, and two bright geniuses may hit upon the same idea at different periods, quite unconsciously. To avoid any unnecessary repetition, or apparent plagiarisms, therefore, by these coincidences, we venture to address this paper to young beginners in the craft. . . . All these are prohibited:—To talk of yellow pickles at dinner, and say the way to *Turn ’em Green* is through Hammersmith—all allusions to eating men for *Eton* men, *Staines* on the tablecloth, *Eggham*, etc., are all exploded; as is all stuff about *maids*, and *thornbacks*, and *plaiice*; or saying to a lady who asks you to help her to the wing of a chicken, that it is a mere matter of a *pinion*—all quibbles about dressing *hare*, and cutting it—all stuff about a merry fellow being given to *wine*; or, upon helping yourself,

to say you have a *platonick* affection for roast beef; or, when fried fish runs short, singing to the mistress of the house, with Tom Moore,—

“Your *sole*, though a very sweet *sole*, love,
Will ne’er be sufficient for me.”

All such are banished.” (*Life and Remains*, vol. i, p. 256.)

Upon the subject of FEES, Sir James has some delicate and valuable remarks: he generously advises physicians not to be too greedy; and gives proof of his own moderation. As agreeable examples of the author’s beautiful style, and high ethical tone, we quote a few paragraphs.

ADVICE TO PHYSICIANS. “Here I would venture to interpose a word of advice to the physician, who, especially if he be tolerably independent in circumstances, as he ought always to be in mind, *will withdraw his services, as a duty which he owes to the patient, as well as to himself*, whenever he sees, on the part of his patient, *the slightest want of confidence*;¹ for there must be as total a feeling of trustfulness on one side, as a hearty desire to relieve on the other, otherwise the ill-assorted association cannot be too soon dissolved; and it is more dignified for the medical guardian, seeing that his authority is not absolute, himself to make the first move.” (pp. 21, 22.)

From the above, the reader cannot fail to discover that there is nothing mercenary in Sir James Eyre. This important fact is still more strongly inculcated in the following extract; in which the success of the author’s treatment is set forth in language which no charlatan could use, and which is not only of itself sufficient to stamp the writer as a philanthropic, scientific physician, but likewise to place him on a proud pre-eminence as the stomach’s best friend.

THE PICCADILLY TRADESMAN CURED BY OXIDE OF SILVER: ONE SILVER FEE: FEES OF SILVER COIN ARE UNPROFESSIONAL. “CASE 6, and the last that I intend to inflict on my reader. It is that of a respectable tradesman in Piccadilly, about thirty years of age, married, but without family, with whom I had been in the habit of dealing occasionally. I had not seen him during many months, and on my return to England from my autumnal holiday, about the second week in September, 1850, I called accidentally and found him greatly altered, and miserably thin. He said that he had had jaundice in March; had been under excellent medical care, but that nothing would give him the least appetite. After asking him the necessary questions, I told him that if he would give me his confidence, I would cure him in a month, for my own pleasure, and that his offering me any pecuniary recompence must be out of the question, for I saw that he was not able to give money for professional aid. He agreed; and by the steady use of the oxide, for which his case seemed especially adapted, and carefully attending to his diet, and other particulars, *I kept my word*—he could eat and digest as heretofore; and on the 16th of November, although I would not take *gold*, he forced upon me that which I dare not have accepted in coin of the realm, as being unprofessional, namely, *one silver fee*. I met him in the street six months afterwards, and he was so stout that I did not know him. I hope that I have not selected too many instances in corroboration of my fixed opinion of this elegant and perfectly safe preparation—safe excepting it be administered by a wilfully careless fool. I will not suffer my own sincerity to be doubted; but before leaving the subject, I would make *one* remark, as collateral evidence in part proof of it (I could have loaded this report with cases, had it been wise to have done so); but I desire to say, in concluding these six little histories, that being sure of my resources, *I volunteered my services in the three last instances*, (the lady I have never yet seen), not seeking pecuniary remuneration (often, unhappily, necessary, and always distasteful), but simply from an ordinary sense of duty, and that I might,

¹ The *italics* are the author’s.

peradventure, obtain thereby the physician's best and most dignified reward." (pp. 121, 124.)

These are noble sentiments; but, Sir James, there are some honourable members of our profession who do not, like you, despise silver and gold, and to whom fees are not "always distasteful", who have learned from personal experience that silver coin is not altogether valueless as a stomach medicine; and who, when their own "bagpipe"¹ is out of tune, would rather trust to coined silver from the mint, than oxidated silver from any drug-store.

In justice to the author, however, we must state, that he is quite prepared to accept donations of "gratefully inscribed" silver plate, though he publishes his determination never to be so unprofessional as to accept a silver fee in coin of the realm. Upon this nice point in medical ethics, let him speak for himself. He says:—

"I may mention as a somewhat curious fact, that in seventeen years practice, I have never been offered but twice as my *honorarium* a sum so unusual as a crown; and this was (innocently) tendered to me by two invalids, strangers to each other, on the same morning: of course they were declined, and the advice freely given. 'Tis true that my Piccadilly patient's fee came in the shape of an acknowledgment in silver; but this had on its surface not our most Gracious Majesty's portrait, but a grateful inscription to me, his successful physician." (pp. 122, 123.)

We had intended to have told how the author made capital coffee many years ago in the *quartier Latin*, when a student; and how and why he was made a knight; but for these and other interesting pieces of autobiography we must refer our readers, (and particularly our colleagues of the *Circular*;) to the *Stomach and its Difficulties*.

We have already quoted enough to show, that our opening sentence was not an unmeaning panegyric; and that the honours of the Royal Medical and Chirurgical Society have not been improperly bestowed by the Council. Not only, however, has this body done itself honour by selecting Sir James Eyre, but it has proved staunch and true to its love of "purity", by not allowing a single general practitioner to sit in the Executive Council. Is not this a graceful homage to the Spirit of the Age?

MEDICINA MECHANICA; or the Theory and Practice of Active and Passive Exercises and Manipulations, considered as a Branch of Therapeutics. By JOHN F. BLUNDELL, M.D. 12mo, pp. 292. London: 1852.

This is an addition to the literature of a quack system, here paraded under a new name; for *Medicina Mechanica* is only the new name of what is better known as *Lingism*, or *Kinesipathy*. In the *Medical Directory*, the author gives as his only professional title, that of M.D. of Giessen, 1851. He is therefore probably a young member of the profession, and may amend his ways. We formerly gave some extracts from Dr. Roth's extravagant vagaries, and we now cite a passage from Dr. Blundell, to show that both gentlemen are desirous of playing the same game in the metropolitan arena.

The following is a sentence from the author's treatment of CHRONIC DIARRHŒA:—

"The patient stands perfectly upright, with his feet close together. The left arm of the operator is then placed along the spinal column, and the right hand upon the abdomen. The patient is then bowed, as it were, forward, and raises his body again to the erect posture; the operator *resisting*, and at the same time making use of a rapid vibrating movement without the walls of the abdomen." (p. 279.)

¹ The author thus describes the Anatomy of the Stomach:—"The STOMACH is placed on the left side, or hypochondrium; and, as anatomists are very fond of comparison, is very like to the CALEDONIAN BAGPIPE, having its larger end to the left, and its smaller to the right of the body." (p. 4.)

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

[The Articles quoted or abridged are indicated by an asterisk.]

I: MONTHLY JOURNAL OF MEDICAL SCIENCE:

JANUARY, FEBRUARY, and MARCH 1852.

1. ON COLCHICUM AUTUMNALE, chiefly with reference to the Growth of that Plant, and its Therapeutic Actions. By J. M. MACLAGAN, M.D. [This is the concluding part of a very valuable and carefully prepared monograph.] January.
2. CASE OF POISONING BY ATROPINE. By JAMES ANDREW, M.D. Cantab. January.
3. CASE OF TRACHEOTOMY, followed by Secondary Hæmorrhage. By C. F. SLOAN, M.D. January.
- 4.* CHLOROFORM IN INFANTILE CONVULSIONS. By J. Y. SIMPSON, M.D. Jan.
5. OCCASIONAL LATENCY OF THE SYMPTOMS IN ADVANCED CARCINOMA UTERI. By J. Y. SIMPSON, M.D. January.
- 6.* TIC DOULOUREUX REMEDIED BY OPERATION. By J. B. ALLAN, M.D. January.
- 7.* CASE OF DILATATION OF THE COMMON BILE DUCT. By A. H. DOUGLAS, M.D. February.
- 8.* ON THE BLOOD ORIGIN OF A CERTAIN FORM OF GENERAL PALSY. By HAMILTON KINGLAKE, M.D. February.
9. CASE OF ANEURISM OF THE UPPER PART OF THE AXILLARY ARTERY, attended by Certain Peculiarities and Unsuccessfully Treated by Ligature of the Subclavian Artery. By R. J. MACKENZIE, F.R.C.S. Edin. February.
[This is a good paper on an obscure and difficult case. The aneurism was apparently of that description described by Mr. Liston in his famous paper, read before the Royal Medical and Chirurgical Society, and refused a place in its *Transactions*: i. e., it was an aneurism owing its origin to ulceration of the coats of the artery, which formed part of the walls of an abscess.]
- 10.* CASES OF POISONING WITH ARSENIC. By DOUGLAS MAGLAGAN, M.D. February.
- 11.* TURNING AS A SUBSTITUTE FOR CRANIOTOMY IN LABOUR DELAYED BY OBSTRUCTION OF THE BRIM OF THE PELVIS. By J. Y. SIMPSON, M.D. February.
12. CASE OF ENCYSTED TUMOUR OF THE RIGHT EYE-BROW, occasioning severe Paroxysmal Pains in the course of the Supra-orbital Nerve: Removal of the Tumour by Operation, with cure of the Neuralgia: the Cyst contained an Earthy Concretion. By H. B. NORMAN, Esq. February.
[This is an observation very similar to that recorded by Dr. Allan in the January number.]
- 13.* DENTAL CARIES, and the Preservative Influence of the Saliva in that Disease. By J. SMITH, M.D. March.
- 14.* FUNCTION OF THE SPLEEN AND OTHER LYMPHATIC GLANDS AS SECRETORS OF THE BLOOD. By JOHN HUGHES BENNETT, M.D. March.
15. ON THE EVIDENCE OF APOPLECTIC DEATH, and of DEATH BY SMOTHERING in Persons Found Dead: with Notices of a Case of Death under Suspicious Circumstances. By WM. SELLER, M.D. March.
16. FATAL CASE OF POISONING WITH OXALIC ACID. By ALEXANDER WOOD, M.D. March.
17. CLINICAL REPORTS OF MEDICAL CASES. By JOHN HUGHES BENNETT, M.D. I. PULMONARY DISEASES, in January & February. II. FEVER, in March.

18. CLINICAL REPORTS OF SURGICAL CASES. By R. J. MACKENZIE, M.D. January and March.

[The subjects considered are:—1. *Restoration of the Upper Lip, Cheek, and Eyelid.* 2. *Cases of Urinary Calculi.* 3. *On Chloroform in the Treatment of Stricture of the Urethra, with Retention of Urine.* 4. *Cases of Rupture of the Urethra.*]

19. REPORTS OF SURGICAL CASES occurring under Mr. SYME in the Royal Infirmary of Edinburgh. By E. R. BICKERSTETH, Esq. January.

[Two cases are detailed, viz.:—1. *Necrosis of the Articular Surface of the Head of the Humerus: Removal of the Exfoliation: Recovery.* 2. *Suicide by Swallowing a quantity of Pure Chloroform: Post-mortem Examination.*]

20. REVIEWS.

[In the February number there is a very complete showing up of homœopathic knaves and fools, in the form of reviews of Everest's impious *Sermon*, and the homœopathic "monster petition" to the Edinburgh Town Council.]

CHLOROFORM IN INFANTILE CONVULSIONS. BY DR. J. Y. SIMPSON.

DR. SIMPSON calls attention to the prevailing, and, we may add, *correct*, opinion, that the majority of convulsive attacks in infants depend upon sympathetic or functional derangements, and not on structural changes. The *first* indication, therefore, is to discover and remove sources of irritation; and the *second*, (which it may be necessary to combine with the first), is to "reduce the super-irritability of the excito-motory system". In the more chronic cases, iron and zinc are used: in more acute cases it is necessary to administer antispasmodics, such as opium, hyoscyamus, and musk. In the following cases, Dr. Simpson successfully used chloroform as an antispasmodic. The narrative is abridged.

A male infant, when ten days old, was observed to have, two or three times during the day, twitchings in the muscles of the face; but they were not so severe as to attract special attention. During the two following days, they were more frequent, and the hands were clenched, and the thumbs were turned inwards. On the third day, the convulsions became far more violent, were more prolonged, and were much more frequent. They continued with little change, and no abatement in their intensity or frequency, for the next fourteen days. Sometimes they affected the right side much more severely than the left. The bowels were well acted upon with mercurials, magnesia, etc.; and every separate function attempted to be brought as near as possible to the standard of health. A new wet-nurse was procured, lest the milk might perchance have been proving the source of irritation. The child was placed in a larger and better ventilated room. Ice and iced water were occasionally applied to the scalp. At one time, when the fits became unusually prolonged, and were not only accompanied, but followed for a time, by much congestion in the vessels of the scalp and face, and an elevated state of the anterior fontanelle, two leeches were applied. Liniments of different kinds were used along the spine. Musk, with alkalies, was given perseveringly for several days as an antispasmodic; and small doses of opium, turpentine enemata, etc., were exhibited with the same view. All these and other means, however, proved entirely futile. The child, who had hitherto maintained wonderfully his strength and power of suction, began to sink; and during the fifteenth and sixteenth days of the attack, the fits became still more violent, and more distressing. They were accompanied with moans and screams, very painful to listen to; symptoms of laryngismus and dyspnœa supervened towards the termination of each fit; and in the intervals, the respiration, as well as the pulse, continued much quickened.

During the last two days of the disease, the exhaustion became so great, the dyspnœa in the intervals so distressing, and the fits so very violent and

constant, (seventeen were counted in one hour), that Dr. Simpson and Dr. Scott gave up all hope. They had exhausted all the usual means of relief. Ultimately, but much more with the view of abating the screaming, laryngismus, and other distressing symptoms under which the little patient was suffering, than with any great hope of permanent relief and cure, the child was placed for about an hour under the influence of chloroform. During this hour there was no recurrence of the fits; but in a short time after the withdrawal of the action of the anæsthetic, the convulsions recommenced with their old violence and frequency. From four to eight o'clock in the afternoon of the same day, he was again placed under the influence of chloroform. The drug was specially applied at any threatening of the recurrence of a fit, and during the four hours in question, all convulsions were in this way repressed. When the child was allowed to waken up at eight o'clock, it took the breast greedily, and continued well for upwards of an hour, when the convulsions again began to recur. At last, about twelve o'clock p.m., it was again placed under the chloroform, and kept more or less under it for upwards of twenty-four hours, with the exception of being allowed to awaken eight or ten times for nourishment. During most of this period it was carefully watched: but at last the nurse was entrusted with the duty of adding a few drops of chloroform to the handkerchief, and exhibiting them at any time the child was offering to awaken or become restless.

After this long continuation of the chloroform, the child, on being allowed to waken, as usual sucked greedily, and immediately fell back into an apparently natural sleep. The chloroform and all other formal medication were in consequence discontinued; and *there was subsequently no recurrence of the convulsions*. In about ten days, the infant was removed with the family to the country, where it became strong, plump, and well grown.

In exhibiting the chloroform, ten ounces were expended; but of course a large proportion was lost by evaporation.

TIC DOULOUREUX REMEDIED BY OPERATION. BY DR. ALLAN.

A young woman, aged 25, was brought to Dr. ALLAN, a perfect martyr from tic, beginning over the right eyebrow, and extending over the face. Her complaint had been of six years' duration, and was gradually becoming more severe. It commenced with characteristic exactness at a certain hour in the morning, at times changing its time of visit until night. On feeling the pained eyebrow, the cellular substance on both sides seemed very thick. A hard body was detected; and on cutting down, a calcareous concretion was dislodged from its position immediately over the supra-orbital foramen, where it was attached to the nerve. Since its extraction, the girl has been comparatively free from pain. Dr. Allan asks:—“*May not inveterate tic be often caused by similar deposits in inaccessible portions of nervous channels?*”

The concretion removed was the size of a large pea, and was covered with a pellicle of cellular tissue: it was hard, gritty, unorganised, and consisted entirely of carbonate of lime.

CASE OF DILATATION OF THE COMMON BILE-DUCT.

BY DR. A. HALLIDAY DOUGLAS.

C. T., aged 17, a domestic servant, was admitted into the Royal Infirmary of Edinburgh, 28th January, 1848, labouring under symptoms of hepatic disorder, as indicated by jaundice, pain and tenderness, and swelling in the right hypochondrium, tympanitis, and constipation. The most remarkable symptom was paroxysmal aggravations of the pain in the right side, attended by febrile action. This had been going on for three years, the attacks becoming more frequent. Immediately after admission, she was seized with a paroxysm, which lasted three days, and decreased rapidly, with profuse perspiration, succeeded by extreme prostration, increased jaundice, dark-coloured

alvine discharges, and diminished fulness of the right side. These attacks recurred at varying intervals; and in June, the tumour, projecting in the lateral region, with fluctuation and tenderness, was opened by a trocar. Thirty ounces of fluid escaped; the tumour was diminished, and the patient immediately felt relief. No paroxysm occurred for fourteen days; but she continued, as she had done for some time, to lose ground daily, and died July 4th.

The swelling was found to have been caused by a dilatation of the common bile-duct, containing, after death, nearly half a gallon of yellow fetid fluid. The hepatic duct was dilated as far as its second and third divisions; the cystic duct was unaffected in its cystic half; and the gall-bladder was normal: but the openings of the cystic and hepatic ducts into the sac, were each large enough to admit a finger. A continuation of the common bile-duct, undilated, opened into the sac, by an aperture smaller than its own calibre, and fitted in by a funnel-like process. The sac occupied the whole of the right side of the abdomen; its walls were from a twelfth to a sixth of an inch in thickness. The internal surface was of a reddish-green fibro-cellular appearance, with pale, opaque, pearly-looking patches of dense fibrous tissue, largest at the upper and lower ends. The pleuræ were covered with pseudo-membrane; the mesenteric glands were universally enlarged.

ON THE BLOOD ORIGIN OF A CERTAIN FORM OF GENERAL PALSY.

BY DR. HAMILTON, KINGLAKE,

DR. KINGLAKE relates the case of a clergyman, aged 45, of robust frame and good general health, but having an hereditary predisposition to gout, who was seized, after symptoms of *malaise*, with gradually increasing general palsy, on the 14th February, 1851. On the 26th, motor power in the lower limbs was almost entirely lost, and in the trunk and upper ones much impaired; his voice was feeble. General sensation and the cerebral functions remained nearly impaired. Urine was copious, clear, coagulable, acid, of sp. gr. 1012; shewed no crystals under the microscope. A mixture with colchicum and liquor potassæ was given. On March 1st, gouty symptoms were present in both great toe joints. The urine was highly loaded with lithates. The gout receded in the evening. March 4th. The paralysis was much increased; intellect and special senses were unaffected; no convulsions or spasmodic movements, nor spinal tenderness; no pain. Pulse soft, rapid, irregular, and intermittent; constant faintness; bowels confined; urine high coloured and turbid, with numerous crystals of lithic acid. March 5th. Severe pulmonary symptoms appeared. March 6th. Pulmonary symptoms increased in urgency; the dyspnœa was very severe. March 9th. Some improvement. March 12th. Chest symptoms improve. A slight yellowness of the skin was observed yesterday; this day, jaundice was decided. Urine was loaded with lithates and stained with bile. March 28th. Under the use of mercurials, colchicum, and aloes, the jaundice disappeared; and the muscular power returned in the inverse order of its loss. By the end of April, he was able to walk without aid; and, on June 24, he believed himself better than before his attack.

The paralysis, in the premonitory symptoms of general *malaise*, in its tendency to run a certain definite course, and in its limitation to the one particular tract of the spinal cord, is assimilated to those diseases which arise from the circulation of a poison in the blood. The cider and the water which the patient was accustomed to drink was free from lead, and there was no other source for the imbibition of this metal.

The limitation of the palsy to the motor tract negatives the supposition of active congestion of the vessels of the cord, or of hæmorrhage into the spinal canal. The peripheric origin of the disease is opposed both by the absence of the usual causes, and by the very rapid extension to all parts of the motor column.

Dr. Kinglake is led to ascribe the paralysis to a retention of the elements of urine in the system. It might be expected that the poison would be localised in the brain; but the patient had been injured by a fall on the back some years ago, and perhaps this determined the action of the poison to the motor tract. He hints that the hypothesis of localisation of poison in the blood may be applicable to certain other diseases of the nervous system, some characterised by an exaltation or perversion, others by a diminution, of functional power.

POISONING BY ARSENIC. BY DR. DOUGLAS MACLAGAN.

Cases of arsenical poisoning are so common, that the published cases are very numerous, and rarely possessed of any features of novelty or new scientific interest. The cases detailed by DR. MACLAGAN are hardly exceptions to this remark; yet there are two points to which he directs attention which seem worthy of notice in this place, viz., 1, the great importance of administering substances capable of enveloping the particles of the poison, and of exciting vomiting sufficient to dislodge them from the stomach: 2, the value of Reinsch's process as a means of diagnosis during life. On this latter topic, Dr. MacLagan remarks:—"I am not aware of having observed that Reinsch's process has ever been applied as a means of diagnosis, but assuredly in doubtful cases it is susceptible of such application; and it would certainly be satisfactory to a medical practitioner, called to a case which should afterwards prove fatal, and be determined by *post-mortem* analysis to be one of poisoning, that he had positively assured himself of this during the life of the patient, and had treated it as such. The application of Reinsch's process to a portion of the vomitings, during the progress of the case, offers no practical difficulty,—it will, in general, be easy to procure the materials, and, of course, absolute purity in the hydrochloric acid is not required here, as in a strictly medico-legal analysis. In no town, scarcely in any village, would it be difficult to find some 'spirit of salt', and a bit of copper; the glass tube for sublimation is, in reference to diagnosis, unnecessary. If the piece of copper be crusted black during the boiling, and when heated in a candle lose its crust, and give off alliaceous fumes, the evidence will be sufficiently precise."

TURNING AS A SUBSTITUTE FOR CRANIOTOMY IN LABOUR DELAYED BY OBSTRUCTION AT THE BRIM OF THE PELVIS. BY DR. SIMPSON.

That CRANIOTOMY is a revolting operation—that it is even, when it is essential for the mother's safety, at best a necessary murder, we admit; and therefore we entirely go along with DR. SIMPSON in all he says as to the character of the practice when resorted to without due cause. We also feel that the simplicity of the operation is a strong reason for the obstetric attendant calmly asking himself whether it be the only alternative of his art. On the other hand, we are afraid that the substitution of turning for craniotomy is not so often and so easily practicable as sanguine inexperienced readers of the paper now under consideration may imagine. Still, by placing the patient completely under the influence of chloroform, as was done in an interesting case detailed, turning may sometimes be accomplished under circumstances in which, before the use of anæsthesia in labour was known, craniotomy could have been the only means by which the life of the mother could be saved.

The following extract is Dr. Simpson's recapitulation of the principal advantages which he says the operation of turning has over craniotomy, in cases "where the pelvis is somewhat too small, or the foetal head somewhat too large, to allow the infant to pass by the unaided efforts of nature, even with the assistance of the long forceps."

"I. Turning substitutes the delivery of the infant by the hand of the accoucheur, for its delivery by formidable steel instruments. And certainly the avoidance of instruments is, as a general principle, desirable when it is possible.

"II. The transit of the cone-shaped head of the child, through a somewhat narrow brim, is facilitated by the narrow end of the cone (or bi-mastoid diameter of the head) being made to enter and engage first in the contracted brim; and the hold which we obtain of the extruded body of the child, enables us to employ so much extractive force at the engaged foetal head, as to make the elastic sides of the upper and broader portion of the cone (or biparietal diameter of the cranium) to become compressed, and if necessary indented, between the sides of the contracted brim.

"III. When the child is brought down footling, we have far more power than when the spherical arch of the cranium presents, of manually adapting and adjusting, when necessary, the shape of the head to the shape of the contracted brim; the rounded form of the cranium not affording us any sufficient hold and purchase for this purpose in cranial presentations.

"IV. The *lateral* and very *temporary* compression of the foetal head, by the contracted sides of the pelvis, such as we can produce and effect on artificial turning and contraction, is less dangerous to the life of the child than its *oblique* or longitudinal compression with the long forceps, or by the *long* impaction of the head itself in the contracted brim.

"V. In cases where the narrowness is greater, and such as to produce a depression or indentation in the elastic and flexible cranium of the child, still this transient depression, or indentation, is not necessarily destructive to life, as is the perforation of the head in craniotomy. Children often survive and recover, when born with the head much distorted and even indented.

"VI. On these accounts, the operation of turning affords a fair chance of life to the child; while craniotomy affords none. And even when the turning and extraction require some considerable time for their performance, the resulting temporary asphyxia of the child is not necessarily so deep and fatal, but that the infant may be revived by appropriate measures applied after birth. I can, for one, state that in these cases, and in instances of common footling and turning cases, I have repeatedly been astonished at the vitality of the infant after traction had been applied to it, both so strong in degree and so long in duration as to leave apparently little hope of its survival; and I have heard other practitioners make the same remark as the result of their experience.

"VII. The operation of turning, under the circumstances we speak of, will, I believe, be found also to be more safe to the life of the mother than the operation of craniotomy. In every instance, the operation of craniotomy is necessarily fatal to the infant; but in a very large proportion also, this operation is fatal to the mother. The statistical results collected by Dr. Churchill and others, show that craniotomy is fatal to the mother in about one in every five cases in which it is performed; while turning does not generally prove fatal in above one in every fifteen or sixteen patients, even including complicated cases. Besides, it affords this great source of safety to the mother, that, *cæteris paribus*, delivery by turning can be, and is, as a general rule, adopted far earlier in the labour than delivery by craniotomy; and in proportion as it is practised earlier, so far also will it be practised with greater safety and greater success, the maternal mortality attendant upon parturition, whether natural or operative, increasing always in a ratio progressive with the increased duration of the labour."

ON DENTAL CARIES, AND THE PRESERVATIVE INFLUENCE OF THE SALIVA IN THAT DISEASE. BY DR. J. SMITH.

DR. SMITH believes that the saliva acts as a protecting agent to the teeth, in a manner analogous to that of the epithelium or epidermis. From a consideration of the facts relating to the structure of the teeth, and the vascularity and sensibility of the dentine, he infers that the tissues liable to dental caries are incapable of self-maintenance in any degree proportionate to their subjection to disorganisation; and that the existence of this apparent defect, with certain other circumstances, renders it very probable that saliva has been substituted by nature for the supply of this deficiency, to protect the dental structures from the decomposing forces to which they are exposed. Saliva is supposed by many to promote decay of the teeth; but Dr. Smith combats this view on the following grounds: 1. The teeth decay most in that situation—the upper jaw—where there is least saliva. 2. The constant presence of a destructive fluid in the neighbourhood of an organ would be unparalleled in the animal economy.

ON THE FUNCTION OF THE SPLEEN AND OTHER LYMPHATIC GLANDS AS SECRETORS OF THE BLOOD. BY PROFESSOR HUGHES BENNETT.

DR. HUGHES BENNETT here treats of, 1, The relation between the colourless and coloured corpuscles of the blood; 2, The origin of the blood corpuscles; 3, Their ultimate destination.

1. *Relations between the Colourless and Coloured Corpuscles.* Dr. Bennett believes, with Mr. Wharton Jones, that the coloured corpuscle is merely the liberated nucleus of the colourless cell. The transformation takes place in the following manner:—The colourless cell may frequently be seen, by the aid of acetic acid, to have a single round nucleus; but more commonly the nucleus is divided, each half having a distinct depression, with a shadowed spot on the centre. Occasionally, before division takes place, the nucleus becomes oval, elongated, and sometimes bent, or of a horse-shoe form. It may be divided into three or four granules. These stages are figured by Dr. Bennett; they were discovered by him in his interesting observations on leucocythemia, and in experiments on mammals, birds, reptiles, and fishes.

He does not believe, with Mr. Wharton Jones, that all the nuclei forming the coloured corpuscles, in mammals, should necessarily be provided with a cell-wall. Many, however, do proceed beyond this point, and may be seen to have cell-walls: the nuclei, in such cases, increase endogenously by fissiparous division, and, on the solution of the cell-wall, become coloured blood-discs. In fishes, reptiles, and birds, the coloured blood-corpuscles are nucleated cells, originating in the blood-glands.

2. *Origin of the Blood-Corpuscles.* This, (as was enunciated many years ago by Hewson), is to be looked for in the lymphatic glandular system; under which head are included the spleen, thymus, thyroid, supra-renal, pituitary, pineal, and lymphatic glands. Nuclei and nucleated cells are found in these bodies; and Dr. Bennett's observations on leucocythemia have shown that an increase of colourless cells in the blood is connected with enlargement of the spleen and other glandular organs. The blood of the splenic and portal veins is always richer in colourless corpuscles than that of the systemic circulation; and in young animals, in which the thyroid, thymus, and supra-renal glands are most fully developed, the blood contains most colourless corpuscles. Moreover, in a case of enlargement of the thyroid body, this organ contained cells and nuclei of much smaller size than usual; and corresponding cells and nuclei were found in the blood. In another case, the colourless corpuscles in the blood were of two distinct sizes, corresponding with a similar appearance in the corpuscles of the lymphatic glands. It is difficult to determine how the corpuscles find their way from the lymphatic glands into the blood; but Dr. Bennett suspects that there must be a direct venous communication. He believes that, if he has esta-

blished that the corpuscular elements in the so-called blood-glands are transformed into those of the blood, it will follow that the lymphatic glands secrete the blood-corpuscles in the same way as the testes secrete the spermatozoa, the mammæ the globules of the milk, or the salivary and gastric glands the cells of the saliva and gastric juice.

The most probable and consistent mode of origin of the corpuscles is in an organic fluid, by the production of molecules, the successive development and aggregation of which constitute the higher formations. Multitudes of free nuclei join the blood, and are at once converted into coloured blood-discs; and the cells circulate for a time, when their walls are dissolved, and their nuclei become coloured. The number of coloured corpuscles in the blood increases in proportion to the development of the lymphatic glandular system in the animal kingdom; and Mr. Drummond and Dr. Bennett have observed that the nuclei in the spleen, varying in size in different animals, correspond with the nuclei of the blood-corpuscles.

3. *Ultimate Destination of the Blood-Corpuscles.* Dr. Bennett believes that the blood-corpuscles are dissolved, and, with the effete matter absorbed from the tissues of the lymphatics, constitute blood-fibrin. Zimmermann believed that fibrin resulted from the metamorphosis of the textures. The arguments which support this view appear to Dr. Bennett to be unanswerable. There is no fibrin in the chyme; very little in the chyle; less in carnivora than in herbivora. There is no fibrin in the egg; nor in the blood of the fœtus; and very little in the new-born infant. On the other hand, all those circumstances which cause exhaustion of the textures, or increase the amount of absorption, augment the quality of fibrin; as after inflammatory or other exudations, starvation, violent fatigue, pregnancy, and frequent bleeding and hæmorrhage. The amount of fibrin in the blood seems out of proportion to what would be required for textural nutrition. Increase of fibrin is also accompanied with diminution of the red corpuscles; hence it appears probable that fibrin results from a solution of the blood-corpuscles, conjoined with the effete matter derived from the secondary digestion of the tissues, which is not converted into albumen.

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- 2.* ON GALVANISM IN OBSTETRIC PRACTICE. By J. H. HOUGHTON, Esq.
- 3.* ON TRAUMATIC SPASMS. By WILLIAM COLLES, Esq.
- 4.* ON A CAUSE OF CARDIAC MURMURS. By J. H. LEDWICH, Esq.
5. ON SYPHILITIC MENINGITIS. By THOMAS READ, M.D.
6. ON ANEURISMS OF THE ARTERIA INNOMINATA. By T. S. HOLLAND, M.D.
[This part contains the histories of forty-five cases, collected from British and foreign journals and other works.]
- 7.* ON FRACTURES IN THE VICINITY OF THE ANKLE. By R.G.H. BUTCHER, Esq.
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ON A NEW APPARATUS FOR FRACTURES OF THE FEMUR.

BY DR. BEVAN.

DR. BEVAN objects to Dessault's and Liston's splints for fracture of the thigh-bone; that counter-extension, being made obliquely, is attended with loss of power, and hence with greater necessary pressure on the perinæum and groin; that the counter-extension is made by a yielding texture; and that the perineal bandage tends, in fracture of the neck of the bone, to separate the upper from the lower portion. He proposes the following apparatus.

A single, broad, strong splint passes under the entire limb; it is padded at the upper part, to pass below the tuber ischii. One perpendicular, strong

bar of iron, well padded, rises from the inner border, and is intended to rest against the ramus of the pubis; while another similar, but longer bar, is placed also perpendicularly on a level with the spine of the ilium, on the outside of the splint. To the lower end of the splint, a moveable perpendicular iron plate is attached by means of a thumb-screw. This plate is perforated in the centre; and through it an endless screw passes, to which a foot-board and shoe, well padded, are attached. The perpendicular plate is merely united to the splint by a screw, which can be fixed at various lengths. Counter-extension is made partly by the perpendicular iron pressing against the pubis, and partly by the edge of the splint pressing against the tuber ischii; the danger of galling is much less than may be imagined. The perpendicular iron at the spine of the ilium is of use in supporting the pillows, and fixing one which should always be placed under the trochanter major, to keep it in contact with the neck of the bone, and prevent it from falling backwards. The extension is made by the screw below, which is attached to an iron foot-board; and this may either be connected to the foot by a boot or figure of 8 bandage, or, what answers better, by a circular bandage applied round the leg above the malleoli, with a strong band to connect it to the foot-board.

The following is the method of applying the apparatus. A bandage being applied the entire length of the limb, the patient lies down on the splint, which is previously covered with a long pillow, with the pubis resting against the inner perpendicular (perineal) plate; the extending bandage is applied, the ankle bound to the foot-board, and the screw tightened. Children or unruly persons may sometimes require to be fastened down by a bandage. A pad or pillow should be placed under the trochanter major.

The advantages of the apparatus are stated to be: 1. Its simplicity. 2. The extension, or counter-extension, is made perpendicularly. 3. No pressure is made on the front of the thigh. 4. The extension may be made very gradually, by means of the screw, without deranging the apparatus. 5. The entire limb is exposed to view. 6. Eversion of the foot is prevented. 7. The extension may be made above the malleoli. 8. The counter-extension is principally made against the tuber ischii.

ON THE USE OF GALVANISM IN OBSTETRIC PRACTICE.

BY J. H. HOUGHTON, ESQ.

Those few practitioners who have recorded their opinion of the utility of galvanism in exciting or increasing uterine action and arresting uterine hæmorrhage, have, with the exception of Dr. Simpson of Edinburgh, spoken in favourable terms of its powers. MR. HOUGHTON relates four cases—three of uterine inertia, and one of hæmorrhage during labour, in which galvanism was applied with success. He then collects an abstract of the cases recorded by Messrs. Dorrington, Clarke, Cleveland, Demsey, Dr. Radford, and Dr. Simpson, thirty-two in all; in which the effects of galvanism in obstetric practice were decided in twenty-four cases, equivocal in one, and negative in seven. In seventy-five per cent. then, the effects of the agent were manifest; in eight cases, for hæmorrhage before the expulsion of the ovum; in six cases, for hæmorrhage after the expulsion of the ovum; in eight cases, for atony of the uterus; and in two, for induction of premature labour. Mr. Houghton is inclined to believe that some undetected source of fallacy must have existed in Dr. Simpson's cases (the equivocal and negative). The *power of emotion*, though an important agent, can hardly be supposed to have operated on Dr. Simpson's patients, as has been suggested by Dr. Tyler Smith; and Dr. Simpson used the same kind of apparatus as had been employed by Dr. Radford.

The most important power of galvanism in obstetrics is in controlling hæmorrhage; and it is also most useful in stimulating the uterus in cases of atony.

The inconveniently formidable appearance of the galvanic apparatus is the great obstacle to its use; but Mr. Houghton, in a foot-note, suggests that Pulvermacher's hydro-electric chain batteries may be found to fulfil the objects sought for.

ON TRAUMATIC SPASMS. BY WILLIAM COLLES, ESQ.

MR. COLLES describes four kinds of spasms occurring after injuries.

1. Immediately after the receipt of any injury, before any adjustment is attempted, the muscles of the limb are thrown into spasmodic action by the least motion, or by the handling of the parts. The treatment is merely to place the limb so that the muscles may be relaxed, to reduce the fracture, and apply firm but not too tight dressings. A full opiate will be useful; and sometimes should be preceded by the removal of a few ounces of blood. This is never a formidable affection, and seldom lasts beyond the second or third day.

2. This is the most severe and rapidly fatal form. About the third or fourth day after the injury, the patient, whenever he is dosing to sleep, is suddenly awakened by a severe jerk in the limb, and a very acute but transient attack of pain. These spasms, at first at irregular and distant intervals, become more frequent and regular; then the disease attacks the muscles of that side of the body, and extends gradually to the other side, till at length every voluntary muscle is in violent action during this momentary spasm. The pulse becomes considerably increased in quickness, but not in force; the temperature is not increased at first: as the disease advances, a perspiration breaks out, and becomes more profuse, cold, and clammy towards the end, when the patient's mind begins to wander. Death generally occurs, apparently from exhaustion, between the second and sixth day from the invasion of the disease. Early amputation is believed by Mr. Colles to be the only remedy which can be depended on. After death, it is generally found that a portion of nerve is impacted between the ends of the bone, so that it is pressed on and inflamed.

3. The third form is that denominated tetanus, and which comes on generally towards the cure of the injury. On this form, amputation has no influence; and it was probably success in some cases of the second form which induced Baron Larrey to recommend amputation in tetanus. The diagnosis of the second and third forms is important, and their more essential differences are thus given.

1. The second form of spasm comes on in three or four days after the accident.

Tetanus seldom appears before the second or third week.

2. It commences by spasm in the limb injured.

Tetanus commences by stiffness of the (jaws and) throat.

3. In the intervals between the spasms, the muscles are much relaxed, and the patient can swallow and move with comparative ease.

In tetanus there is constant rigidity, almost preventing swallowing or moving of any description, and giving a peculiar expression of countenance.

4. The pain is chiefly in the wound, and is most excruciating during spasm.

In tetanus there is no pain in the wound, but a pain at the scrobiculus cordis.

5. The disease runs its course in three or four days.

Tetanus may continue for as many weeks.

6. Amputation holds out the only prospect of relief.

In tetanus, amputation is useless, if not injurious.

7. The disease seems to have a local origin.

Tetanus is more of a constitutional affection.

4. Mr. Colles next makes a few remarks on the affection which results from implication of a nerve in a tight cicatrix. Division of the nerve, or amputation, can alone effect the complete removal of the disease.

ON CONGENITAL DEFICIENCY OF THE SEPTAL WALLS OF THE HEART,
AS A CAUSE OF CARDIAC MURMURS. BY THOMAS H. LEDWICH, ESQ.

MR. LEDWICH relates the case of a child, aged nine years, who died in the Meath Hospital of tubercular pleurisy. During life, a loud murmur, synchronous with the first sound, was heard; it was most loud at the ensiform cartilage, but was not traceable in the course of the sternum.

The appearances found in the heart were, slight enlargement; a little dilatation and thickening of the right auricle; the Eustachian valve large, so as to conceal the caval opening; the foramen ovale large and patulous, and surrounded by a thick annulus; the proper valve of the aperture stretched tightly across, and occupying one-third of the space; some dilatation with hypertrophy of the right ventricle; pulmonary artery rather small in proportion; semilunar valves healthy; auriculo-ventricular valves competent, except two or three apertures capable of admitting a very small pin; walls and cavities of left side of heart healthy—aorta perhaps a little dilated at its origin.

The murmur might be supposed to have originated either, 1, in the tricuspid valves; 2. In the dilated aorta; or, 3. In the patulous foramen ovale.

Mr. Ledwich believes that it could not have arisen from tricuspid regurgitation; for the valves were not sufficiently diseased, nor was venous congestion or pulsation of the jugulars present during life. The gravest objection to its having been produced in the aorta, was that it could not be heard in the course of the sternum; and, moreover, there was no disparity between the slight aortic dilatation and the opening of that vessel. The author thinks that, during the diastole of the right auricle, a portion of the blood of the inferior cava, in passing into the left auricle through the patulous foramen ovale, played on the margin of its tightened valve, and produced the systolic murmur. The patency of the opening was probably secondary to the disease of the lung; the course of events being, first, obstructive disease of the lungs; second, dilatation of the right side of the heart; the septum auricularum participating in the distension, the diameter of the fossa ovalis was rendered greater than the valve; third, communication between the auricles, with or without cyanosis—which is by no means always present when such communication exists.

ON THE TREATMENT OF FRACTURES IN THE VICINITY OF THE
ANKLE-JOINT; WITH OBSERVATIONS ON THE PRACTICE OF

TENOTOMY, AS FACILITATING REDUCTION OF THE

BROKEN BONES. BY R. G. H. BUTCHER, ESQ.

In cases of fracture of the bones of the leg near the ankle, MR. BUTCHER reduces the fracture by steady traction on the foot, and places the limb in a fracture-box, with the thigh slightly bent, and the leg resting on the heel. Whilst the thigh rests on a gently inclined plane, the leg rests on a horizontal surface; the box is well padded, particularly beneath the heel; splints, with lateral foot-supporters, are slid up between the cushions and the sides of the box; each has a round hole bored in the lower extremity, which receives the arms of the sole-piece. In addition to the lining pads of the splints, three others are used; the first is placed beneath the heel so as to press the foot and lower fragments well forwards; the second, somewhat in the shape of a wedge, is placed along the inner side of the leg, the base resting about two inches above the fracture through the tibia; this tends to press the tibia outwards; the third pad, also triangular, is placed between the outer side of the foot and the corresponding splint, the base at the toes; this inverts the foot, and brings up the internal malleolus to the upper fragment. The splints and pads being adjusted in this way, the anterior surface of the limb is raised exactly to a height with the sides of the fracture-box,

so that, when the first roller is applied from below the knee around the box and leg, as far as the centre of the lower third, an equable pressure is maintained along the upper surface of the tibia, steadying the upper fragments, and pressing them backwards; layers of wadding are interposed to prevent fretting of the skin over the spine of the tibia. The foot, well pressed forward by pads under the heel, is fixed, *slightly* inverted, by a few turns of a roller, embracing the anterior part of the dorsum of the foot, side-splints, and foot-board. The part corresponding to the side of fracture is thus left free for observation and for local applications.

Mr. Butcher relates six cases which were in this way successfully treated under his observation. Sometimes he applies Dupuytren's splint, in a few days, as an adjunct to the apparatus above described; but not by any means as capable of superseding it. He arrives at the following conclusions.

1. By proper position of the limb, and early reduction, coaptation of the broken fragments can be effected, and spasm averted. 2. As the result of the broken bones being kept in accurate position, irritation is subdued, excess of callus prevented, and the motions of the joints left unimpaired—a fact of great practical importance, for MM. Cruveilhier and Rayer have shown the liability of irritation to produce ossification of the fibrous and cartilaginous structures. 3. Tenotomy (recommended some time ago at a meeting of the Royal Medical and Chirurgical Society of London, by Mr. Campbell De Morgan) is not called for in the vast majority of cases, being perhaps advisable only when permanent spasm has located in the extensor muscles, owing to neglect of early reduction.

PROVINCIAL MEDICAL AND SURGICAL JOURNAL,
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- 1.* ON EPILEPSY. By JOHN HITCHMAN, M.D. January 7.
 2. CASE OF POISONING WITH ARSENIOUS ACID. By J. SKEVINGTON, Esq. January 7.
 3. TWIN PREGNANCIES ON THREE SUCCESSIVE OCCASIONS. By EDWIN BISHOP, Esq. January 7.
 4. EXTRA-UTERINE FETATION, HÆMORRHAGE, AND DEATH. By CHARLES LINGEN, Esq. January 7.
 - 5.* TREATMENT OF VARIOUS CURABLE DISEASES. By W. S. OKE, M.D. January 21 and March 17.
 6. ON PROLAPSUS UTERI, WITH A DESCRIPTION OF A NEW INSTRUMENT FOR ITS TREATMENT. By JOHN JONES, Esq. January 21.
 7. FRACTURE OF THE HUMERUS AT ITS LOWER THIRD. By R. E. JONES, Esq. January 21.
 8. IDENTITY OF WATERY ULCERATION OF CICATRIX WITH EPITHELIAL CANCER. By JAMES REID, Esq. February 4.
 9. CASE OF RETENTION OF BILE AND DISTENDED GALL-BLADDER. By WILLIAM BUDD, M.D. February 4.
 10. OBSERVATIONS ON HYDATID DISEASE OF THE LIVER. By P. M. DUNCAN, M.D. February 4.
 11. ABSORPTION OF THE MAMMÆ AND TESTES UNDER THE USE OF IODINE. By LANGSTON PARKER, Esq. February 4.
 - 12.* TREATMENT OF SCIATICA. By C. R. BREE, Esq. February 4.
 13. ANEURISM OF THE THORACIC AORTA BURSTING INTO THE TRACHEA; SIMULATING CHRONIC LARYNGITIS. By W. H. GOOCH, M.D. Feb. 18.
 14. VARIETIES OF CRANIAL PRESENTATION. By J. G. SWAYNE, M.D. February 18.
- [In the No. for 7th March there is a letter on this subject from Dr. Swayne, in reply to a communication from Mr. Ogle.]
15. ENORMOUS ACCUMULATION OF FLUID (83 PINTS) IN AN OVARIAN CYST. By H. COOPER, M.D. February 18.

16. CASE OF FRACTURE OF THE SPINOUS PROCESSES OF THE LUMBAR VERTEBRÆ. *REMARKS ON THE TREATMENT OF SPRAINED BACK BY "FIRING." By JAMES DICKINSON, Esq. March 3.
17. VIRTUES OF KOUSSO. By W. BUDD, M.D. March 17.
[Dr. Budd, from his experience in the Bristol Royal Infirmary and in private practice, considers koussou as at once more fatal to the tape worm, and less hurtful to man, than turpentine, ethereal oil of the male fern, and the pomegranate-root bark.]
- 18.*CASE OF ILEUS, WITH OBSTRUCTION FOR THIRTEEN DAYS. By JOHN SODEN, Esq. March 17.
19. BIRMINGHAM HOSPITAL REPORTS. By SCRUTATOR. February 18, March 3, and March 17. By OBSERVATOR. January 7, 21. By W. J. MOORE, Esq., from the practice of Mr. Langston Parker. February 4.
[The cases reported by SCRUTATOR and OBSERVATOR are reported under the conditions for clinical prizes offered by the Council of the Association. SCRUTATOR'S CASES refer to Lupus, Injuries of the Knee-joint, Lithotomy, Injuries of the Head, Erysipelas and Recovery after severe laceration of the scalp, Stricture of the Urethra, Fracture of the Femur, with account of a *post-mortem* examination, illustrated by wood-cuts; Encephaloid Tumour, and Amputation; Diffuse Cellular Inflammation, Amputation, and Recovery; Cancerous disease of the Lower Jaw, and removal of portions of the bone; and Cancer of the Penis. OBSERVATOR'S CASES refer to Hemiplegia; Cancer of the Pylorus; Inflammation of the Brain, and Syphilitic Rheumatism. MR. MOORE describes a Case of Recovery after very Extensive Injuries.]
20. BIRMINGHAM PATHOLOGICAL SOCIETY REPORTS.
[We propose to give an abstract of these Reports in our department for Societies.]
- N.B. In addition to the articles above enumerated, there is in the Number for January 21 the proposed Medical Bill, already reprinted in the LONDON JOURNAL, several articles referring to it, Reports of the Branch Meetings, Reviews, and Correspondence.]

ON EPILEPSY. BY JOHN HITCHMAN, M.D.

DR. HITCHMAN relates the pathological appearances found in three cases of epilepsy; one of whom was found dead; the second died in an epileptic paroxysm, or rather from the coma and exhaustion which followed; the third died from pulmonary consumption.

The first patient was a woman fifty years old, who had been the subject of epilepsy for twenty years. The upper surface of the convolutions of the hemispheres presented indurations from the size of a pea to that of a large bean, and of various degrees of hardness. These were cysts, the harder ones of which contained a white grumous material like fine mortar, containing microscopic rhombic crystals. Others contained fluid, with a few clear spherules; the cysticercus cellulosus was looked for, but was not found. In the left ventricle, resting on the corpus striatum, was a cyst as large as a pigeon's egg, with incipient acephalocysts on its inner surface. The corpus striatum round this was softened; the brain presented no other disease. The calvarium and membranes of the brain seemed normal. The cause of death was pulmonary apoplexy. In another case, though there were spicula of bone projecting from the skull and resting on the brain, and the cerebral lobes were of unequal size, with cysts in the choroid plexuses, and atheromatous deposits in the basilar arteries, there was no epilepsy.

The second case was that of a woman aged fifty-six, who had been epileptic forty-eight years, and insane eleven years; the epilepsy was produced by a fracture of the frontal bone.

In the autopsy, the calvarium was found to have a deep triangular indentation form in the centre of the frontal bone; this was limited to the first

table. The inner table was deeply grooved by the meningeal arteries, and was diaphanous. The base of the skull was contracted; the crista galli was very large and projecting; and the clinoid processes of the sphenoid were curved and irregular; the dura mater was firmly adherent to the skull; the arachnoid was opaque and thickened; the pia mater much congested; the Pacchionian bodies were very large; the pituitary body was atrophied and degenerate; the medulla oblongata was much congested with blood, and the lateral ventricles were devoid of fluid. The heart was small and flaccid, and its tricuspid valves were diseased and thickened. The other viscera of the body appeared healthy. In another case, a blow at the junction of the parietal with the temporal bone did not originate epilepsy, but gave rise to a malignant tumour, which encroached upon and destroyed some of the agencies of vision and muscular action, and, by mechanical contiguity, impaired the intellectual manifestations of the brain, and finally destroyed life.

In the third case, a woman who died of tubercular diseases had been epileptic in a very high degree until six months before her death, when inflammation of the lungs set in. From this time, she had no fits. There was no very marked cerebral lesion, beyond a very hypertrophied condition of the pituitary body. What condition excitant of epilepsy was removed by the deposition of tubercle in the lung?

NOTES ON THE TREATMENT OF CURABLE DISEASES.

BY W. S. OKE, M.D.

OPHTHALMIA INFANTUM PURULENTA. This kind of inflammation arises from contact with specific discharge during the passage of the head through the vagina. It takes place soon after birth, and is easily subdued in the incipient stage; but if neglected, and the corneæ are involved, the worst consequences will ensue. The palpebræ are inflamed, swollen, and closed; and, upon being slightly compressed, a considerable quantity of purulent matter will be discharged.

Some competent attendant must be instructed to inject the lotion (1) betwixt the palpebræ and the globe of the eye twice a day, that it may be done effectually. After this the tarsi are to be lightly smeared with the ointment (2); folds of linen, made wet with saturnine wash, are to be constantly laid upon the swollen palpebræ; and the powder (3) is to be given in gruel or syrup three times a day.

1. \mathcal{R} Argenti nitratis gr. viij; aquæ destillate \mathfrak{z} ij. Misce. Injiciatur pauxillum intra palpebras bis quotidie. 2. \mathcal{R} Unguenti hydrargyri nitricoxidi \mathfrak{z} j; quo linentur palpebræ bis die. 3. \mathcal{R} Hydrargyri chloridi gr. ss.; pulv. tragacanthæ comp. gr. iv. Fiat dosis ter die sumenda.

FEBRIS JUNIORUM REMITTENS. I have used the word juniorum instead of infantum, as this remittent affects children from one year old to about ten. The bowels are irregular and generally inactive; there is a total loss of appetite, and a remarkably foul and undigested state of the fæcal evacuations; the urine is high coloured; the pulse is rapid; there is a burning heat of the skin at night, with restlessness or delirium, but during the day there are several remissions, in which the child appears to be comparatively better, and drowsy. The cheeks are often flushed; the hands tremble; the nose and lips are constantly picked, and the child becomes peevish, and cries if an attempt be made to prevent it. It is sometimes scarcely possible not to confound this disease with the *early* stages of some inflammatory conditions of the brain. There may be chilliness, vomiting, fever, with a rapid pulse, constipation, occasional drowsiness, restlessness and delirium in both. But by attentively observing whether, upon the whole, the symptoms point to the cerebral or abdominal functions, we shall be able to come to a sufficiently correct conclusion. Acute headache, whether gestured or expressed, intoler-

ance of light, starting in the sleep, and grinding of the teeth, would decide for the former; whilst the absence of these, irregular remissions of fever during the day, a burning skin in the night, and a disgust of food, would evidence the present disease.

The indications of cure are:—1st, to clear out the alimentary canal, and reduce the fever; 2nd, to improve the digestive function, and strengthen the system. The first will be accomplished by Nos. 1, 2, and 3, and the second by 4.

1. \mathcal{R} Hydrargyri chloridi gr. j; pulveris scammonii comp. gr. v. Misce, fiat pulvis quartâ quâque horâ sumendus, donec satis operaverit. 2. \mathcal{R} Hydrargyri cum cretâ gr. vi: antimonii potassio-tartratis gr. iss; sacchari purificati 3 ss. Misce, et divide in chartulas sex, quarum sumat unam tertiis horis.

After the bowels have been cleared, they may be moderately acted upon every morning by—3. \mathcal{R} Magnesiae sulphatis 3 ss; infusi rhei 3 iii; syrupi zinziberis 3j. Misce; fiat haustus.

The system is to be supported through the course of the disease with farinaceous fluids, dilute milk, light animal broths, and ripe fruits; and when the febrile action has subsided, we may give a tonic. 4. \mathcal{R} Quinae disulphatis gr. iss; acidi sulphurici dil. gtt. vj; tincturae cardamomi compositae, syrupi simplicis, sing. 3 ij; aquae purae 3iiss. Misce; capiat sextam partem ter die. \mathcal{R} Infusi cascarillae, misturae camphorae, sing. 3iiss; ammoniae sesquicarbonatis gr. vj; syrupi aurantii, 3ij. Misce; capiat cochleare magnum unum ter die.

CYNANCHE TRACHEALIS: INCIPIENT STAGE. This disease is the result of inflammation of the mucous membrane of the trachea, and the deposit of false membrane. The respiratory appears to be the only mucous membrane that is so frequently subject to fibrinous deposits. It is difficult to explain why children should be so much more liable to croup than adults; it may be, that, as in the former the forces of physical growth are greater, so any inflammatory actions of those forces are the more disposed to secrete fibrin. Whatever may be the true explanation, croup is seldom met with after the age of puberty. On the other hand, the younger the child the greater the danger; for then the respiratory tube is comparatively small, and liable to be more rapidly impeded by false membrane.

The disease usually attacks at night. The child, probably after slight indication of cold, is awakened by an impediment to the breathing, and every effort to inspire produces a crowing sound; after this the breathing becomes more and more stridulous and straitened, and is accompanied with a shrill hoarse cough. There is sthenic pyrexia, and an anxious and distressed aspect. In the spasmodic form there is no hoarse cough nor *continuously* stridulous breathing; neither is there much febrile disturbance or distress.

In laryngismus stridulus there is also a crowing sound, but this is transient, returns at intervals, and is attended with a sense of suffocation. Laryngismus does not appear to be the result of inflammation, but rather of a spastic reflex action of the arytenoid muscles, which close the rima glottidis; and this action is often caused by teething.

The incipient stage of croup is amenable to treatment, if it be early and decided; but if false membrane is allowed to be secreted, all remedies will be almost surely ineffectual. Local bleeding, calomel, and antimony, are mostly to be relied on. Leeches are to be applied over the trachea, the number to correspond with the age of the child; and the powder (1) is to be given every two hours, till the stools assume a spinach colour, and the breathing is relieved.

1. \mathcal{R} Hydrargyri chloridi gr. xij; antimonii potassio-tartratis gr. iss; sacchari purific., 3 ss. Misce, et divide in chartulas sex, quarum detur una secundâ quâque horâ.

This dose supposes the child to be over a year old. After the leech-bites

have ceased to bleed, a narrow blister may be laid along the sternum, and the warm bath may be necessary, if the skin be hot and dry. The diet should be low, such as barley-water, sweetened with honey, and the atmosphere of the room must be of a genial temperature.

Croup is most commonly met with in damp and cold districts; and if the patient recovers, he is sometimes liable to a return of the disease: in such case he should be removed to a mild locality.

PETECHIAL SPOTS IN CHILDREN. Petechiæ are most frequently observed in asthenic febrile diseases; and are a very unfavourable symptom. I remember one instance of continued fever, in which the skin of the whole body was spotted with large petechiæ, and which soon terminated fatally. But petechiæ may also exist independently of any febrile association; and with this kind purpura hæmorrhagica may be classed.

The case to which I allude in this place is unassociated with fever, and occurs to children from about six to twelve years old. The petechiæ appear to be the result of a low power of the blood. They are generally seen between the knees and ankles, and are mostly like flea-bites; sometimes, however, they are here and there interspersed with others of larger size, but all are of a deep purple colour. There is often pain at the epigastrium, aching of the joints, a foul and flabby tongue, a weak pulse, and a feeling of debility.

The indication of cure is simply to strengthen the system; and this will be fulfilled, and the petechiæ speedily removed, by the hydrochloric acid mixture (1), the alterative (2), and a generous diet.

1. *R. Acidi hydrochlorici diluti m. xxxvj; syripi croci, tincturæ aurantii comp. sing. ʒss; aquæ destillatæ ʒij. Misce; capiat cochleare largum ter die.* 2. *R. Hydrargyri chloridi gr. j; pulveris radiceis rhei gr. v; pulveris zingiberis gr. ij. Misce; fiat dosis bis hebdomadâ sumenda.*

INTESTINODYNIA IN YOUNG PERSONS. This assemblage of symptoms appears to be of a functional character, occurs before puberty, and continues for a considerable time. It consists of a constant, dull, aching pain of the bowels, seldom accompanied with griping. The abdomen is enlarged, dull under percussion, and rather tender under deep pressure. There is no fluctuation in the peritoneal cavity; neither is there attenuation of the body. The pulse is quiet and regular; the tongue is not furred; there is no diarrhœa nor constipation; and the appetite varies, being sometimes excessive and sometimes altogether absent. It is difficult to point out the cause of these symptoms. They do not appear to be connected with entozoa in the alimentary canal, nor with glandular disease of the mesentery.

I have met with a considerable number of these cases, and they have yielded to the bichloride of mercury, after being taken a very few days. It may be given as in—

1. *R. Hydrargyri bichloridi gr. iss; tincturæ cardamomi compositæ syripi zingib., sing. ʒss; tincturæ hyoscyami ʒi; aquæ menthæ pip. ʒv. M. Capiat cochleare largum unum ter quotidie.*

In this dose, the bichloride will generally give about two stools in the day. If it should operate too much, the dose must be reduced to one-twelfth of a grain; if it fail to affect the bowels at all, some aperient will be required to regulate the bowels, such as ten grains of rhubarb, or one of the pills (2) every other night.

2. *R. Pilulæ colocynth. comp. (L. P.) ʒij; scammonii saponis duri, sing. ʒss; extracti hyoscyami gr. vj; olei caryophylli guttam. Misce et divide in pilulas xij; capiat unam duasve alternâ quâque nocte, vel pro re natâ.*

The two following cases are examples of this disease:—

CASE I. C. B., aged 12, complained of a dull pain in the lower part of the abdomen, which had existed for some time; it was enlarged, and somewhat

tender under pressure. The pain became worse about the middle of the day after his dinner. The bowels were neither constipated nor relaxed. The tongue was but little furred; the pulse did not exceed 90 in the minute, and the appetite not wholly absent. An eighth part of a grain of the bichloride of mercury, dissolved in peppermint water, was prescribed for the child three times a day, which at once relieved the pain, and in a short time reduced the size of the abdomen, and removed the disease.

CASE II. W. P., aged 11, had complained of an aching and pinching pain of the bowels for two months, it was occasionally so severe as to make him roll upon the floor. The abdomen was in some degree swollen and tender under deep pressure. He had one stool daily. He was thirsty, and his appetite was sometimes voracious, and at others altogether absent. The tongue, however, was not much furred, and there was no febrile disturbance. The same treatment was adopted in this case, and in a week the child was convalescent.

ENLARGEMENT OF THE ABDOMEN FROM MESENTERIC OBSTRUCTION IN YOUNG PERSONS. The obstruction of the mesentery, here alluded to, is not that caused by strumous enlargement of its glands, nor that which results from the agglutination of its peritoneal surfaces by fibrinous deposits, but that which is occasioned by sub-acute inflammation, unattended with any great degree of febrile action. It is characterised by enlargement, severe pain and tenderness of the abdomen, which is dull under percussion, and sometimes infiltrated. If the symptoms have continued long, there is also extreme atrophy. The cases which have fallen under my observation have occurred from the age of ten to fourteen years.

In the treatment, calomel, combined with opium, has been very successful, not only in subduing the pain, but in curing the malady.

The pills (1) should be given two or three times a day, according to the degree of pain; and, should ptyalism be produced, and the pain, nevertheless, continue, the opium is to be persisted in without the mercury, in such doses, and after such intervals, as circumstances shall require.

1. R Hydrargyri chloridi gr. vj; pulveris opii gr. iij; conf. rosæ ðss. Misce et divide in pil. vj; quarum capiat unam bis terve die, urgente dolore.

I have found a plaster also an excellent adjuvant, made of equal parts of the emplastrum ammoniaci cum hydrargyro, and the emplastrum thuris compositum, spread upon thin leather, and large enough to cover the *whole abdomen*. This remedy appears to act upon the principle of gentle pressure. The following is a most remarkable case of the kind.

CASE. A female, aged 15, who had not menstruated, became affected with fulness of the abdomen, accompanied with darting pains of the lower part of the bowels, extending to the back. The pain was generally severe, but worse in the night. There was not much febrile action, although she was often thirsty. At the commencement of the disease there was sickness and vomiting, but not afterwards. Her food gave her gastric pain; her urine was high coloured; and her bowels were irritable, acting after every meal. There was also a frequent desire to pass the urine. This state of things continued five months, the greater part of which time she kept her bed. She was then brought to Southampton, and placed under my care in the dispensary.

The abdomen was now in some degree infiltrated, and very tender. She was much atrophied, and could not stand without assistance. Her appetite was ravenous. The pain of the belly was agonising. A large opiate plaster was applied over the whole of the abdomen, and calomel, combined with opium, was given every four hours: one grain of the former, and as much of the latter as the pain required. This treatment was continued for some time, and under its continuance the pain, tenderness, and enlargement of the abdomen gradually subsided; in short, she completely recovered. She is now twenty-seven years of age, and in good health.

CHOREA. Chorea occurs from the age of about eight to fourteen years. Before or after this period, it is seldom to be met with. It consists of an assemblage of sudden involuntary muscular actions, which are throughout the day continually distorting the features, and drawing the head, trunk, and limbs, into various abnormal attitudes.

This malady seems to be the result of an atonicity and a morbid sensibility of the excito-motory nerves. These irregular movements probably commence in the ganglionic or sympathetic nerve, and are thence reflected through the spinal cord, upon the muscular system; or perhaps they originate in some part of the cerebral function; and this view is in some degree supported by the fact that the involuntary actions entirely subside during sleep.

Chorea is generally curable by medicine in six weeks or two months; and the remedies which I have found most successful, are preparations of iron and smart purgatives, as—

1. *R* Ferri sesqui-oxidi \mathfrak{z} i, \mathfrak{z} ss; pulveris cinnamoni compositi gr. ij. Misce; capiat æger hanc dosin ter die in theriacâ.

2. *R* Hydrargyri chloridi gr. iij; scammonii gummi gr. iv; pulveris zingiberis gr. ij. Misce; fiat dosis terciâ quâqua nocte sumenda.

In some cases the magnetic oxide of iron answers better than the sesquioxide, as in—

3. *R* Ferri oxidi magnetici \mathfrak{z} i, \mathfrak{z} ss; pulveris zingiberis gr. ij. Misce; fiat dosis in crasso vehiculo sumenda ter quotidie.

Should the above preparations of iron fail, the iodide of potassium will be often found successful, especially if the strength has been much worn by the long continuance of the choreal movements. It may be given in the formula—

4. *R* Potassii iodidi gr. xxiv; syrupi aurantii \mathfrak{z} ss; aquæ menthæ piperitæ \mathfrak{z} iiss. Misce; capiat æger cochleare largum unum ter die ex aquæ pauxillo.

I saw this medicine succeed in a remarkable manner, after all other remedies had failed, in a young man, twenty-one years of age, and six feet in height. I have known chorea affect several members of the same family as they came to an age susceptible of the disease, in some of whom it proved fatal, in spite of every means employed to subdue it. There are forms of chorea in which the spastic actions of the muscles are so violent and incessant, as to make it necessary to combine opiates with the above treatment. The following is an example.

CASE. J. C., of Romsey, aged 16, was admitted under my care, into the Royal South Hants Infirmary, on the 28th of August, 1848, for chorea. The spastic actions were so universal, violent, and incessant, that neither personal clothing nor bed-clothes could be kept on her for a moment, nor could she lie upon the bed without the risk of being jerked off it. Under these circumstances, she was laid on a mattress upon the floor of a small ward, padding the walls that she might do no injury to herself, and directing the nurse to keep a blanket on her as best she could. She was then ordered the following medicines:—The opiate (5) to be given every night; the magnetic oxide of iron with Dover's powders (6) three times a day; and the purgative (7) alternate mornings.

5. *R* Liquoris opii sedativi m. x; mist. camphoræ \mathfrak{z} ss. Fiat haustus omni nocte bibendus.

6. *R* Ferri oxidi magnetici gr. xv; pulveris ipecacuanhæ compositi gr. iiss. Misce; fiat pulvis ter die in crasso vehicula sumendus.

7. *R* Pulveris scammonii compositi gr. x. Fiat dosis omni alterno mane sumenda.

This treatment at once succeeded. The spastic movements were speedily controlled; in two days she returned to her bed; and on the 25th of September (twenty-eight days from her admission), she was discharged cured.

ON THE IDENTITY OF WARTY ULCERATION OF CICATRIX WITH
EPITHELIAL CANCER. BY JAMES REID, ESQ.

The affection described by M. Marjolin as "Warty Ulcer", by Mr. Cæsar Hawkins as "Warty Tumours of Cicatrices", and by Dr. R. W. Smith, of Dublin, as "Warty Ulceration of Cicatrices", is believed by Mr. REID to be closely associated with epithelial cancer. The following are the principal characters of the warty ulcer:—There appears in some part of a cicatrix a wart, or a small hard tumour, either like a wart, or with a smoother surface. It at once undergoes changes, or remains inactive for a variable period. When the tumour increases, fresh growths spring up around, and coalesce with it, creating sometimes a large elevated mass; the surface partly ulcerates, yielding a thin offensive discharge; it is often very vascular, and bleeds when touched. The tumour may either become more consolidated, so as to resemble a fungous growth, (warty growths, however, being generally noticed near it, and its fibrous or striated structure being readily discovered by a probe, or upon making a section); or it may ulcerate or slough, so as sometimes to leave a deep excavated ulcer; the peculiar state of the surrounding skin remaining, and the disease extending by contamination of adjacent parts. In other examples, ulcerated spots appear on the cicatrix, and gradually coalesce; the surface of the ulcer is then either covered with closely-arranged fibres, of a whitish yellow colour, and a dense but brittle texture, rising above the skin; or it is formed of coarse, firm, round granulations, like the elevations of a cancerous ulcer. These granulations have a fibrous texture; the intervals between them are well-marked fissures. The ulcer slowly advances in spite of remedies. The surrounding integument becomes raised, thickened, and fissured or warty; and then softens or ulcerates. After some time, although commonly confined to the skin, and frequently limited to the cicatrix, it spreads in depth; and, if situated over a superficial bone, invades the periosteum, and even the bone itself, so that a fracture may result. A sloughing process not unfrequently destroys the entire surface, which clears, and again assumes its special aspect. This does not occur so often in the fibrous variety. The pain, at first slight, gradually becomes severe and constant. The discharge is thin, semipurulent, and frequently very offensive. In the more advanced stages, hectic fever sometimes appears. The absorbent glands are not generally affected, though they are frequently sympathetically enlarged; in two instances described by Dr. Smith, they exhibited cancerous disease. General or local treatment has no effect; the diseased part must be completely removed, when it rarely, though sometimes, appears again.

The mode in which the disease commences, the history of its progress, the manner in which it invades and spreads in subjacent and surrounding texture, affects the lymphatic glands, and penetrates bone, corresponding entirely with what is observed in epithelial cancer. The warty tumour, the warty ulcer, and the granulating ulcer, with hard, elevated, everted, and sinuous margin, are found in each affection; the very character of the pain and of the discharge is alike in both. And the reasons assigned for considering it cancerous disease, with a low degree of malignancy, are those upon which epithelial cancer is admitted into the order of malignant diseases,—namely, its capability of converting neighbouring tissue, though slowly, into a similar structure; its power of contaminating the lymphatic glands, without affecting the system for a long time; its return after complete removal,—this occurrence, however, being rare. It will, therefore, be better to regard this disease, which has been considered as almost peculiar to cicatrices, as *epithelial cancer of cicatrix*. The several forms of epithelial cancer probably depend on the greater or less proportion and development of some natural tissue with the malignant elements, and a diminished or increased activity in the subsequent changes of the new structure. At the same time, the original type preserves its peculiarities, to a certain extent, throughout the progress of the disease.

Mr. Reid relates three cases of the disease which have fallen under his observation. In one of these—a case of warty ulceration of a cicatrix on the fore arm—there were formed large crusts, one of which was an inch and a half across the base, and one inch high. He observes, that this is analogous to what is observed in the formation of scabs in some cases of epithelial cancer of the face and lips.

TREATMENT OF SCIATICA. BY C. R. BREE, ESQ.

MR. BREE suggests a trial of the following treatment: he is desirous of obtaining statistical information on the subject. Sciatica, whether connected with rheumatism or not, and not dependent upon mechanical causes, as accumulation of feces, tumours, etc., may be cured in fourteen days, by rubbing along the affected nerve, from its origin downwards, half a drachm of veratria ointment (gr. v to oz. ss.) every night at bed-time. The friction to be performed with a horse-hair glove until severe tingling is induced.

REMARKS ON THE TREATMENT OF SPRAINED BACK BY FIRING.

BY JAMES DICKINSON, ESQ.

MR. DICKINSON says, that many cases of sprained back having come under his notice, and finding that blisters, cupping, stimulating linaments, etc., failed, at the suggestion of Mr. Hinton he tried “firing”, with most successful results. Patients, who for many weeks have evinced the greatest agony, have, after the first or second application, been perfectly cured. The plan is as follows:—Heat a small metal button, (the shank of which is fixed in a wooden handle), over a spirit-lamp to such a temperature as can be borne with slight pain, then pass it several times lightly over the part referred to, which, in most cases, is confined to a particular spot on the back. It is only necessary to produce a slight redness of the skin. A second application is not often required; a third seldom, if ever. The pain produced by the application is rather *severe*, the effect being not unlike that of galvanism; it is, however, quite transient. The following case is an example. An old man had suffered from a sprained back for seven weeks; there was constant pain, aggravated by the slightest motion. He walked at a very slow pace, with the aid of two sticks, and his body bent forward; after the “firing”, he felt much easier, walked home at a moderate pace, and carried himself more upright. Two more applications were necessary. At the end of ten days he was free from all pain.

CASE OF ILEUS WITH OBSTRUCTION FOR THIRTEEN DAYS.

BY JOHN SODEN, ESQ., F.R.C.S.

A gentleman, sixty-three years of age, short in stature, of a nervous sanguine temperament, and of active and extremely temperate habits, who had for twenty years enjoyed uninterrupted good health, on Oct. 16th, 1851, feeling indisposed, and having for a short time previously had his digestion out of order, took an active aperient. It affected him with unusual severity till next morning. He was then sufficiently well to occupy himself in his garden. At dinner, he ate a small quantity of meat; soon afterwards, he was seized with violent spasmodic pain in the abdomen. He took a large dose of castor oil with a few drops of laudanum, but ineffectually; an emetic of ipecacuanha was then tried. The emetic action was not easily induced. An enema of warm water and a warm hip-bath were next had recourse to, but with no immediate relief. Towards evening, however, he became gradually better, and passed a tolerable night.

On the following morning the pain returned with the same severity, and MR. SODEN then saw him for the first time. He was in an alarming condition. There was frequent vomiting of a dark-coloured and very offensive matter. The spasms were intense; there was an anxious countenance, and

impending prostration. There was general tenderness about the umbilicus, chiefly on the left side, attended in this position by marked dulness on percussion: however, neither the dulness nor the tenderness were sufficiently circumscribed to indicate the precise seat of the constriction, supposing such to exist. The patient was subject to inguinal hernia; and, in spite of the large dose of oil (one ounce) that had been administered, there had been no passage from the bowels since the commencement of the attack. Uncertain whether he had to deal with an internal hernia or an attack of ileus, Mr. Soden at once determined to abstain from all aperient medicine, and prescribed small doses of calomel and opium to be administered every two hours. Mustard poultices, and such local means as seemed to afford alleviation, were also used. In the evening he was no better, and the ejections were now of a most suspicious appearance. The pills were continued, with an increased quantity of opium, and a turpentine enema was given.

19th. The matters vomited were now purely fecal. The prostration was very great. The pills had appeared to agree in invariably prolonging, after each dose, the interval from spasm and vomiting; but they produced no other benefit. Mr. Soden now administered one more opiate, without the calomel, and then followed out the expectant treatment, not allowing anything to go into the stomach. Early in the morning, he had made another trial with the injection, having passed a long flexible tube into the bowel, to about twelve inches, throwing up as much warm water as the patient could bear, trusting, that if the disease arose from any mechanical cause, some relief might be afforded. The operation caused no distress to the patient, but the water came away perfectly clear.

From this date up to the 30th, the smallest possible amount of food was given, and this was some beef-tea per anum. Throughout, the symptoms were most discouraging: small doses of prussic acid, and sucking lumps of ice, seemed to give most relief. On the 26th, he was in some respect better. The patient's aspect was improved. At six o'clock in the morning, the bowels were moved for the first time from the commencement of the attack, on the 17th of October, a period of thirteen days; the stool was liquid, small in quantity, and healthy in appearance.

Nov. 1st. The bowels again acted. From this date the case did well. No relapse interfered with a gradual and progressive convalescence.

Mr. Soden adds to his narrative the following remarks:—

"The attention of the profession has lately been much directed towards cases of this description, with a view to their relief by operative means, where the symptoms appear to depend on mechanical causes. It would be a great boon if some clear diagnostic sign of distinction could be shown to exist between the effects of an internal strangulation, and the paralysis induced in its functions by an inflamed condition of a portion of the bowel. I fear the case I have just read will not tend to elucidate this difficulty. From reviewing the history of my patient's malady, I am totally at a loss to say in what it differs from those of persons in whom some accidental stricture was proved to exist. In cases of the latter kind, the pain and tenderness may sometimes be more definite; but this is by no means a rule. There is nothing to be observed in the more tardy or violent onset of the symptoms; in both they come on with equal violence, and with equally rapid effect upon the powers of life. In both there is the permanence of the prostration, so long as the bowel is impervious, and the continued absence of reactionary fever. Trace the individual signs, the flatulence, the character of the spasms, the hiccough, the stercoraceous vomiting, etc., and the analogy becomes only the more complete.

"I have, therefore, I regret to say, no other practical deduction to bring forward than the testimony this case affords, of the favourable result that sometimes attends the resources of nature in cases of intestinal obstruction, where art is of no avail."

THE LANCET:

JANUARY and FEBRUARY.

1. INJURIES OF THE KNEE-JOINT. By SAMUEL SOLLY, Esq. January 3, 10, and 17.
- 2.* ON IMPROVING THE CONDITION OF THE INSANE, BY INCREASED REPORTS OF PRIVATE ASYLUMS. By H. MONRO, M.B., Oxon. January 3, 10, and 17.
3. ILLUSTRATIONS OF DIFFICULT PARTURITION. By J. HALL DAVIS, M.D. January 3, 31.
4. CASE OF POPLITEAL ANEURISM CURED BY COMPRESSION. By WILLIAM REEVES, Esq. January 3.
- 5.* TREATMENT OF DIABETES. By JABEZ HOGG, Esq.
- 6.* CHRONIC COLICA PICTONUM. By W. MORRIS, M.D. January 3.
- 7.* INSANITY CURED BY A SURGICAL OPERATION. By W. BAYARD, M.D.
8. ON THE SOUNDS OF THE HEART. By RICHARD BROWN, Esq. January 3.
- 9.* HEALTHY AND MORBID MENSTRUATION. By HENRY BENNET, M.D. January 10, 17; February 28.
10. SUICIDAL WOUND OF THE THROAT. By AUGUSTUS EVES, M.D. Jan. 10.
11. DISEASES OF THE EAR. By THOMAS BARRETT, Esq. January 10.
12. TENIA SOLIUM: RELAPSE AFTER THE USE OF KOUSSO. By JAMES VAUGHAN, Esq. January 10.
13. ACUTE RHEUMATISM. By C. J. B. ALDIS, M.D. January 10.
14. MORBID EFFECTS OF HEAT. By J. P. LANGHAM, Esq. January 10.
15. SHOULDER PRESENTATION: RARE TERMINATION. By A. C. SELKIRK, M.D. January 10.
16. MOLLITIES OSSIUM. By R. MASON, Esq. January 17.
17. PULMONARY ABSCESS. By R. MOLLOY, Esq. January 17 and 24.
18. IMPORTANT POINTS IN SURGERY. By G. J. GUTHRIE, Esq. January 24, 31; February 14.
19. NITRATE OF SILVER IN SPERMATORRHEA, AND A NEW INSTRUMENT FOR APPLYING IT. By HENRY THOMSON, M.B. January 24.
20. DISEASES COMMON TO SOLDIERS ON HOME SERVICE. By FREDERICK ROBINSON, M.D. January 24, 31; and February 14.
21. FRACTURED RIBS. By JOHN HILTON, Esq., F.R.S. February 7.
- 22.* STRICTURE OF THE URETHRA. By THOMAS WAKLEY, Esq. February 7.
- 23.* THE STRICTURE DILATOR IN STRICTURES OF THE URETHRA. By BERNARD HOLT, Esq. February 7.
24. PNEUMONIA TERMINATING IN ABSCESS. By ROBERT FOWLER, Esq. February 14.
- 25.* PHYSIOLOGY OF MICTURITION, AND ON STRICTURE OF THE URETHRA. [LETTSONIAN LECTURES.] By HENRY HANCOCK, Esq. February 21 and 28.
26. POLICY AND PATHOLOGY OF INSANITY. By JOSHUA BURGESS, M.D. February 21.
27. ANEURISMAL NÆVUS TREATED SUCCESSFULLY BY LIGATURE. By W. J. COX, Esq. February 21.
28. HORSE BEAN IN THE LEFT BRONCHUS: DETECTION OF IT BY THE STETHOSCOPE: DEATH IN SIX WEEKS: POST-MORTEM EXAMINATION. By G. MAC CORMACK, M.D. February 28.

ON IMPROVING THE CONDITION OF THE INSANE, BY INCREASED REPORTS ON PRIVATE ASYLUMS. BY HENRY MONRO, M.B. OXON.

The observations of Dr. MONRO are very important; and suggestive of the necessity, and also of the means of carrying forward needed reforms. The difficulty obviously is the desire for seclusion on the part of patients and relatives, and the fact that "increased reports" might convert "private

asylums" into "public" institutions. There is a difficulty in the way ; but it is one which might be got over, provided the relatives of the insane inmates of asylums were to counsel together and labour zealously to effect and regulate the required change of system.

The author makes the following remarks :—" *There is nothing new then in the idea of a report on private lunatic asylums being laid before the public. What I demand, however, in this paper, may have a novel aspect ; but in truth it is only an increased action of a power which already exists. As things at present are, if the officers of any private asylum have been guilty of a misdemeanour, the public may read and comment upon it by applying to their booksellers. But what I ask for now is that misdemeanours should not be the only matters discussed, but that the general condition of all private houses should be specified, and that reports on these matters should be made accessible to those who are in need of such information. If, then, any one should find fault with my proposition, as an extreme measure, let him remember that he can only complain of it as regards its degree, not as regards its kind.*"

TREATMENT OF DIABETES. BY JABEZ HOGG, ESQ.

Mr. Hogg's idea is to arrest the formation of sugar by the administration of *sulphuret of arsenic*. To prevent dangerous consequences from the arsenic accumulating in the system, he recommends that the liquor arsenicalis be given in combination with hydrosulphuret of ammonia. Two cases are mentioned ; one was cured apparently, but relapsed, and then died ; the other was a slighter case, which recovered, and has not relapsed.

ON CHRONIC COLICA PICTONUM. BY WILLIAM NORRIS, M.D.

The author directs attention to the slow and insidious effects of lead upon the system, by which persons become disabled for their employments, and yet not affected with the violent and characteristic phenomena of lead colic. He remarks : " Acute painter's colic frequently occurs ; but I believe that a chronic form of the disease appears ten times more frequently, and goes through its stages almost unnoticed and unknown ; and that the health of thousands suffers, and many sustain an irreparable injury to the constitution, because proper and precautionary measures have not been adopted at the onset of the disease.

In illustration of the direct influence which lead has upon the muscular system, Dr. NORRIS refers to the paralysis of the right arm, so common among painters, and of the adductor pollicis in glaziers, who spread *putty* (a preparation of lead) with the thumb, when they follow their occupation of fastening panes of glass in windows.

Symptoms of Chronic Lead Disease. The gums become enlarged and flabby, not blue ; there are often muscular pains : the patients look sallow and thin, have disorder of the digestive organs, and sometimes a sweet taste in the throat. These symptoms may go on ten or twenty years before they end in the acute or chronic form of the disease, when the leaden tinge in the gums will be found ; proving the system to be saturated with lead. If the disease assume a chronic character, the symptoms will be somewhat similar to acute lead poisoning in a milder degree—namely, constipation, or sometimes diarrhoea ; a coppery taste ; tongue covered with a dark cream-coloured mucus ; griping in the bowels around the umbilicus, and extending over the abdomen ; loss of appetite, nausea, and sometimes vomiting ; often an exceedingly sweet taste in the throat ; great depression in the nervous and muscular systems ; pulse generally slow and feeble ; the skin dry, and all the secretions diminished ; urine of a dark colour.

Treatment. Mild purgatives daily, or every other day ; calomel and opium

every six or eight hours; then, iodide of potassium in one or two-grain doses. The diet should be light and nutritious; with abundance of mucilaginous drinks. When pain is severe, the warm bath, bran poultices, and hot salt, are always useful.

When patients have premonitory symptoms, they should be removed from their employment, the skin frequently washed, and the clothing changed, and proper remedies administered.

Those who are predisposed to the disease may take a course of iodide of potassium once or twice every year; "and as a preventive take sulphuric acid lemonade" (Watson). The patient should always wear warm clothing.

Chloroform has lately been used by the French. Aran applies a compress dipped in chloroform to the abdomen for twenty minutes, and at the same time gives internally about thirty drops in mucilage. These doses are repeated according to circumstances. He has treated eight cases in this manner, all of which recovered in from two to six days (see *Provincial Journal* for March).

We can testify to the value of repeated five-drop doses of the camphor-chloroform mixture in cases of severe lead colic; and small doses are likely to be useful in milder cases.

The insidious effects of lead poison are, we fancy, much more familiar to the profession and to the public than Dr. Norris supposes. What family does not, (from dread of the bad effects of the lead-charged atmosphere), endeavour, if it be at all possible, to remove from a house in which there is much painting going on! Nevertheless, the hints of Dr. Norris are sound, and to some they cannot fail to be seasonable and useful.

INSANITY CURED BY THE REMOVAL OF THE EYE, AND OF A CALCAREOUS TUMOUR FROM THE ORBIT.

BY WILLIAM BAYARD, M.D.

Psychologically this case is very interesting. During his lunacy—that is, before the operation—this patient believed all objects possessed a scarlet appearance. The operation and its beneficial effects are thus narrated.

"The membranes of the enlarged eye contained nothing but a glairy fluid resembling the white of an egg; and at the base of the tumour, external to its membranous covering, and attached to the optic nerve, at its exit through the foramen, *there was a small sac, containing a calculous concretion, in size equal to a large pea*, rendering it necessary to divide the nerve *close to the bone*. The sac containing the calculus was entire, and easily separated from the nerve. The wound healed favourably; and, at the end of a fortnight, the patient returned home with his father, travelling upwards of 150 miles without experiencing suffering or inconvenience. His health gradually improved, attended with the restoration of his mental faculties."

ON HEALTHY AND MORBID MENSTRUATION.

BY HENRY BENNET, M.D.

DR. BENNET treats of the Physiology of Menstruation; of Dysmenorrhœa; of Menorrhagia; and of Amenorrhœa.

MENSTRUATION, Dr. Bennet remarks, is best elucidated in the elaborate work of Pouchet, published at Paris in 1847, entitled, *Théorie Positive de l'Ovulation Spontanée*, in which, as he states, is contained a full and complete account of the author's own important researches, as well as those of nearly all the ancient and modern writers on the subject. To M. Pouchet belongs the credit of having been one of the first to broach the doctrine of spontaneous ovulation as a law in the females of all mammiferæ, and also of having established this law in the most irrefutable manner by experiments, and by analysis of all that had been done by his fellow-labourers in this field of observation.

Dr. Bennet states, that clinical experience has satisfied him, that morbid menstruation is "nearly always, when strongly marked and *inveterate*, the result of positive disease of some portion of the uterine system, and, generally speaking, of the uterus. That such is the case, must be admitted as probable, when we consider that the function, although presided over by the ovaries, is accomplished by the uterus, which contains an extensive mucous surface."

DYSMENORRHOEA is considered as, 1st, *Constitutional*; 2nd, *Accidental*; and 3rd, *Physical*. Regarding the latter, he is somewhat at issue with Dr. Simpson. Treatment of course varies according to the cause of the dysmenorrhœa. Subjoined is an abridgment of what Dr. Bennet says on this subject.

Constitutional dysmenorrhœa may be palliated, but can seldom be removed by medical treatment. For young females who suffer from it, the discipline of public schools is nearly always too severe, and often lays the foundation for much future physical and mental misery. That this must be the case, will be easily understood, when we reflect that the domestic treatment of this form of dysmenorrhœa consists principally in *rest* and *warmth*. Females who suffer habitually from dysmenorrhœa, whatever their age, should remain quietly at home, taking care to preserve themselves from atmospheric vicissitudes during the first day or two of menstruation, which is the period during which the pain is mostly felt. A warm hip-bath will often be found useful. If the pains are very decided, it is best to confine the sufferer to bed, and to apply warm linseed poultices to the lower abdominal regions.

In severe dysmenorrhœa, connected with uterine disease, the only *efficacious* treatment is that of the cause of the disease which occasions the dysmenorrhœa. As time is required, however, we are often called upon, even in these cases, to treat the dysmenorrhœa as a symptom. From fifteen to thirty minims of laudanum, mixed with a little warm water, injected into the rectum, will generally as much soothe the uterine pain, as would double the quantity taken by the mouth. Dr. Bennet has also found chloroform of great value in these cases. It may be inhaled or administered by the mouth in doses of from twenty to forty minims, mixed with mucilage, the yolk of an egg, or with camphor, which favours its suspension in water. He has given it by injection, but with less success, as it appears, generally speaking, to irritate the rectal mucous membrane, and is consequently not retained. When it is retained, the sedative effect is nearly always effectually produced. Although chloroform may thus often be resorted to with great benefit in dysmenorrhœa, he does not find that as much reliance can be placed in it as in opiates. Antispasmodics and narcotics, as palliatives, may be administered with benefit in dysmenorrhœa.

Dysmenorrhœa being so frequently caused by inflammatory disease, explains the success which often attends blood-letting, both general and local, and which has induced so many authors to recommend it, although unaware of the pathological state which it relieves. General blood-letting acts by revulsion; whilst local blood-letting directly relieves the congested and embarrassed abdominal circulation. He seldom, if ever, resorts to general bleeding in dysmenorrhœa, because the relief which it gives is obtained at too great a sacrifice of the strength of the patient, and cannot, moreover, be depended upon. A few leeches applied to the groin, or, better still, to the neck of the uterus, when possible, if the discharge is scanty or temporarily arrested, is much more likely to mitigate the pain, and with less loss to the economy. Purgatives act in the same way as leeches, by depleting the abdominal circulation.

If dysmenorrhœa resist all general treatment, it is probably the result of local disease. In unmarried females, nothing can warrant manual or surgical investigation and treatment, but months, or even years, of unsuccessful treatment, and the conviction that unless they be resorted to, the case must be abandoned as hopeless. A consultation should be held when the patient is unmarried, to decide whether examination of the uterine organs be necessary.

MENORRHAGIA is considered with reference to its causes and treatment.

Plugging the os uteri is advised in certain cases, and the method of doing it is explained. It seems to be less painful, less clumsy, and more efficient than plugging the vagina.

In cases in which hæmorrhage persists after the removal of local disease, owing to enlargement of the uterus, to the presence of small unrecognised polypus or uterine tumour in the cavity of the uterus and its neck, or from the mere hæmorrhagic habit, Dr. Bennet "has of late resorted, with encouraging success, to plugging *the os uteri itself*, instead of the vagina". He has, in several instances, brought the cervix uteri into view, and passed inside the os two or three small pieces of cotton, tied to a piece of thread, wedged in firmly, covering the whole cervix with two or three larger pieces, left in close contact with it on the withdrawal of the instrument. In the ordinary operation of plugging the vagina, that canal has to be distended by a large mass of sponge or linen, soaked with clotted blood, which often interferes with the functions of the bladder and rectum, is always a source of great discomfort to the patient, and is not always efficient.

Owing to the natural contractility of the cervical canal, and the pressure of fluids from behind, if the cotton is not well pushed in, it is soon forced out. The plug may be left without renewal for twenty-four or even thirty-six hours; but in the latter case, it is generally expelled spontaneously. A small piece of sponge may be used, and is more likely to remain *in situ*, owing to its expansion; but as it must necessarily be very small, it is more likely to be permeated by the blood. If sponge is used, great care should be taken to extract it; to facilitate which a small piece of thread should always be tied to it, as the os uteri might not be able to expel it alone, owing to great expansion of the sponge which takes place.

In the same class of cases, Dr. Bennet has occasionally found that a few leeches, applied after menstruation to the cervix uteri, arrested the hæmorrhage.

STRICTURE OF THE URETHRA. BY THOMAS H. WAKLEY, ESQ.

The author regrets that his method of treatment is so slow in superseding the old. He remarks, "I had entertained the full and confident expectation that the treatment of permeable stricture by either internal or external excision, would belong to history, and even then be exclusively found in the least satisfactory portions of our surgical records. Events, however, have proved that my hopes were not to be so promptly realised. The knife, I find, is still performing its deadly work in the treatment of stricture in this metropolis. I decline, therefore, the responsibility which a farther silence regarding the safety and utility of the *guides* and *tubes* might entail."

Mr. T. WAKLEY cites several cases in proof of the advantages to be derived from his instruments; and also the following passage from the recent work of Mr. Guthrie:—

"This may be accomplished (removal of the obstruction) after the manner lately recommended by Mr. Thomas Wakley, and it is impossible to speak too highly of this invention. . . . It is capable of rendering great service when the withdrawal of a sound or catheter cannot always be certainly followed by the re-introduction of another, and which withdrawal it renders unnecessary, until a larger one is introduced over it—a very great improvement, which no surgeon should neglect; for where this can be done, no operation is immediately necessary."

THE STRICTURE DILATOR IN STRICTURES OF THE URETHRA.

BY BARNARD HOLT, ESQ.

Mr. HOLT, in consideration of the difficulty often experienced in re-introducing a catheter or sound for the cure of stricture, when an increase of size

is demanded, advocates the use, in such cases, of an instrument which, being once introduced, may be materially increased in size, without any other instrument being passed in direct contact with the urethra. The "Stricture Dilator" which he proposes, describes, and figures, is a modification of an instrument of Perrière. Mr. Holt's dilator is made by Philp and Whicker, of St. James's Street.

After detailing a number of cases, the author concludes with the following summary.

"The stricture dilator is capable of effecting all that can be done by the ordinary bougie, and, in addition, has the following advantages:—

"1. The dilator, being introduced in a small compass, passes the stricture with greater facility, and less pain to the patient.

"2. It can be increased from one to six, or six to twelve sizes, without removal from the bladder; thus entailing upon the patient only one introduction at each visit.

"3. The means of increase is effected without more than one instrument coming in contact with the urethra.

"4. There is no possibility of the dilating tubes lacerating the urethra, or escaping from between the blades of the dilator.

"5. The dilatation can be increased, or relaxed, and accurately regulated according to the feelings of the patient, *without withdrawal of the original instrument.*

"6. The increase is very gradual, whatever sized tube may be introduced, in consequence of the length of the upper and lower blades, and the conical form of the extremities of the tubes.

"7. In the operation of lithotomy, it affords facilities for the introduction of a large and straight staff, by a slight modification of the form and size of the tubes."

PHYSIOLOGY OF MICTURITION, AND ON STRICTURE OF THE URETHRA.

BY HENRY HANCOCK, ESQ.

MR. HANCOCK here proposes to consider, "first, those impediments to the passage of urine arising from mere atony, mental anxiety, nervous excitement, or, in other words, from lesion of function of the parts engaged; secondly, those depending upon vascular congestion; and lastly, those resulting from inflammation, the presence of foreign bodies, with their consequences." His observations are prefaced by an elaborate account of his discoveries on the muscular coat of the urethra, and his views on the physiology of micturition.

MUSCULAR COAT OF THE URETHRA.¹ The organic muscular fibres in the prostate gland, connected with the urethra, are continuous with those of the internal coat of the bladder, and seem entirely distinct from those organic muscular fibres which occur in great quantities throughout the gland, and which apparently belong to the numerous vessels and ducts ramifying through this body. The fibres derived from the inner layer of the muscular coat of the bladder form a layer surrounding the prostatic portion of the urethra, separated from it merely by elastic and non-elastic areolar tissue. The outer layer of the muscular coat of the bladder passes on the outside of the prostate gland; and laterally and inferiorly joins the fibres from the inner layer, to form the muscular covering of the mucous membrane of the urethra. On the upper surface of the gland, the external longitudinal fibres are arranged in two or more bundles, which are attached, as Mr. Guthrie has pointed out, to the os pubis near the symphysis. From the front of the prostate the con-

¹ Mr. Hancock announced his discovery of the muscular coat of the urethra at a meeting of the Medical Society of London, on 15th February, 1851. (LONDON JOURNAL OF MEDICINE, March 1851, p. 283.)

joined layer passes forward to the bulb, investing the membranous portion of the urethra. Arrived at the bulb, the two layers extend through the whole length of the spongy portion of the urethra, the internal layer running between the corpus spongiosum and the urethra, separated from the latter by areolar tissue; the external lying on the outside of the corpus spongiosum, separating the spongy tissue from its fibrous investment. At the anterior extremity of the urethra, these layers unite, and form a circular band of muscular fibres, constituting that peculiar structure usually denominated "the lips of the urethra." Not only is the urethra supplied by a coat of organic muscular fibre, but the spongy body itself lies between its two layers of involuntary muscle. At the glans, which is formed not only by increased development, but also by a folding back, as it were, of the corpus spongiosum upon the corpora cavernosa, the muscular layers are multiplied; whilst, on the upper surface of the urethra, where there is merely a narrow portion of corpus spongiosum, the same arrangement holds good. Nucleated fibres may also be found distributed occasionally throughout the spongy tissue.

Kölliker has noticed muscular fibres in the prostate gland, over the membranous portion of the urethra, and in the corpus spongiosum, but has not traced any connexion between them. He does not trace the external layer of the muscular coat of the bladder over the outer surface of the prostate gland itself. He deprives the vesicles and ducts of the prostate gland of their muscular investment, whilst he almost denies a muscular membrane to the spongy portion of the urethra, observing "that it seems more natural to regard the whole corpus spongiosum as a highly developed muscular layer provided with peculiar blood-vessels."

After referring to the various explanations which have been given of spasmodic stricture, Mr. Hancock applies his discovery to the elucidation of this phenomenon. It may occur, he believes, in any part of the canal. In one case, in which a bougie is arrested temporarily about half an inch from the orifice, he has observed that sometimes "the lips of the urethra have worked or wormed round the instrument, precisely similar to the vermiform undulations of the intestines."

PHYSIOLOGY OF MICTURITION. The *action of the abdominal muscles* in promoting the expulsion of urine, is alleged by Mr. Hancock to be much less than is commonly supposed. These muscles, under some circumstances, so far from favouring micturition, retard the flow of urine—an important point in the management of retention of urine. That they have little to do with healthy micturition, is proved by the presence of urine in the bladder in cases of incontinence following retention; and by cases of retention, where the utmost straining with the abdominal muscles is insufficient to empty the bladder. Probably these muscles even add to the difficulty in cases of retention; and Mr. Hancock is in the habit of warning his patients, suffering from stricture or enlargement of the prostate gland, against exercising the voluntary muscles at all, if they can possibly avoid doing so; as he has frequently found that when, by violent straining, patients could not pass a drop, by remaining quiet they could micturate with comparative comfort. The fact of retention being maintained by the abdominal muscles, is explained by the anatomical arrangement of the parts. The urethra is attached to the body and ramus of the pubis by strong and dense fascia, and by the suspensory ligament of the penis. An equal length is attached to that which is pendulous; so that if a man has four inches and a half of pendulous urethra, he will have four inches and a half of attached. Where the bladder is distended so as to be raised out of the pelvis beyond its usual limits, it forms, with that portion of the urethra behind the suspensory ligament of the penis, a species of inverted cone, the apex of which is formed by the membranous portion of the urethra, as it lies beneath the sub-pubic ligament. Hence, when the patient is at micturition, the posterior and middle fibres of the levatores ani muscles raise the bladder, and tilt it still more

forwards; whilst the anterior fibres, drawing up the prostate gland, must compress the membranous portion of the urethra against the unyielding sub-public fascia and ligament. If we now attempt to introduce a catheter, we should do so with the patient lying on his back.

Normal retention of urine, Mr. Hancock believes, is partly voluntary, partly involuntary. It does not, notwithstanding the analogy in structure and function between the stomach and intestines on the one hand, and the bladder and urethra on the other, seem to depend on a distinct sphincter, but on the action of the muscular fibres, continuous with the inner coat of the bladder, acting on the pad of elastic and non-elastic cellular tissue which surrounds the neck of the bladder. Voluntary restraint is imposed on the act of micturition by the muscles of the perinaeum.

Expulsion of urine is performed by the bladder and urethra combined, assisted to some extent by the abdominal muscles. Circular fibres certainly do exist in the bladder; but they are not sphincters. The orifice of the bladder, when the organ is full, is opened for the expulsion of its contents by the pressure and expansive force exerted by the contents themselves in every direction from within outwards upon the neck of the organ. Dr. Murphy has observed, that the forces exerted by the fundus and sides of the uterus upon the contents, rendered elastic by the presence of the liquor amnii, are in the same degree reflected from the contents upon the os uteri, and in this way tend to dilate its mouth. What takes place in the uterus, appears the true explanation of what occurs in the bladder. The fluid is compressed and directed towards the neck by the longitudinal fibres; but the contents being entirely elastic, the sides of the viscus would bulge, and the power of these fibres be proportionably weakened, were it not for the assistance derived from the circular fibres, which likewise, by preventing lateral bulging at or within the neck of the bladder, not only prevent any impediment to the flow of urine, but have a decided and marked effect in directing it on its proper course towards the orifice of the urethra—a tendency which is constant, even after operations for lithotomy. So far, therefore, from these circular fibres being sphincters, they exert considerable influence in aid of the expulsion of the urine.

The muscular fibres of the bladder are of the organic or involuntary class, and so are its actions. Whatever control we may be capable of exerting over micturition, is due to the influence we possess over the voluntary abdominal muscles, and those surrounding the membranous portion of the urethra. The contractions of the bladder should not be regarded as simple contraction, followed by relaxation of the entire viscus, as of a single muscle, but as a series of contractions and relaxations of its independent muscular fibres, sympathetically combining with or succeeding to each other, and so propelling the urine forwards, at the same time exerting a force upon that fluid, which force is, in its turn, reflected from the fluid upon the fibres beyond, thus producing relaxation and expansion of the neck of the bladder. As the food is propelled from the stomach into the duodenum, and so along the intestines, so is the urine propelled from the bladder along the urethra, and so likewise is the foetus expelled from the womb.

THE MEDICAL TIMES AND GAZETTE.

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45. SOME FORMS OF CACHECTICAL GANGRENE OCCURRING IN VENEREAL PATIENTS. By JOHN SIMON, F.R.S. February 28.
46. THE UTERINE SOUND OR BOUGIE. By C. H. HIGGINS, M.D. February 28. [This paper is a defence of Dr. Simpson against recent attacks.]
47. CASES OF DISEASED BONE. By BRANSBY B. COOPER, Esq. February 28.

HYDATID EXPELLED FROM THE RIGHT LUNG : RECOVERY.

BY R. B. TODD, M.D.

James Gardiner was admitted as a patient into King's College Hospital, on the 22nd October, 1850, labouring under symptoms of bronchitis and emphysema. Some time afterwards the symptoms simulated phthisis : there was observed a greater difference in the resonance of the two sides of the chest, and the physical signs became marked in the right lung, especially at its apex, where crepitation existed. The patient got thin, and had abundant night-sweats. On the 22nd of November, he began to expectorate pieces of membrane, which were evidently portions of a hydatid or hydatids, and he continued to spit them up in enormous quantities for two or three days. On the 27th, while at breakfast, he expectorated very fetid matters, consisting of pus, mucus, blood, and pieces of hydatid. From the time he began to expectorate the hydatids, he complained very much of fulness and uneasiness in the right hypochondriac region. From the time that the hydatids began to pass, this region became exceedingly tender to the touch, and at first much swollen, and as the expectoration went on, and especially after the very copious discharge of the 27th, the swelling visibly declined, and the tenderness on pressure diminished very much. Simultaneously with the discharge of the hydatids, a remarkable change took place in the physical signs. On the right side of the chest, from the axilla downwards, there was marked dulness on percussion, where before the sound was clear and tympanitic. The physical signs described as occurring at the right side of the chest, are stated to be such as one might expect from the passage of pieces of soft membrane and fluid passing through the lung : of masses "like thin slices of hard-boiled white of egg."

The route taken by the masses of the hydatid cyst is thus spoken of :—
 "Assuming that the region of the liver was the point whence the mass first proceeded, it must have penetrated the base of the lung on the outer side, and passed up through it, and got quickly into one or more of the larger

bronchial tubes, at no great distance from that part of the surface of the lung, which corresponds to the lateral region of the chest. It was then ultimately discharged through the right bronchus. The pressure of this great mass on the outer part of the middle and lower lobes of the lungs, must have limited very much the flow of blood into their capillaries, and hence, as well as from the retarded venous flow, would probably arise a congested state of the capillaries of the upper lobe; whence, too, the pressure of the same mass would impede the escape of secreted fluids. Thus we would explain the dulness on percussion over the upper lobe, and the crepitation and prolonged expiration in it.

"It is probable, likewise, that the bronchial tube leading to the anterior part of the middle lobe of the lung was that most free from compression; for, as the man lay on his back or right side, the weight of the mass would cause the chief pressure to affect the posterior and lateral parts of the lung; and the channel through which the mass passed was doubtless nearer the posterior than the anterior part of the lung. Hence air would most readily pass into the anterior part of the middle lobe, and hence the tympanitic character of the percussion-sound over the mammary region, and the loud and puerile breathing in that part of the chest. . . . From the time of his admission, this man underwent very frequent and careful examinations of the chest; but, up to the 22nd of November, we could detect none of those signs which must have been present if one or more hydatids had developed themselves in the lung. The suddenness, then, with which the physical signs were developed, affords evidence quite conclusive, that such a mass as we have seen expectorated could not have originated in the lung." [Bile was freely expectorated.]

The upward course of the hydatids against gravity, through the healthy lungs, is interesting. Dr. Todd correctly remarks regarding it, that "the same laws which determine the evacuation of pus in this or that direction, influence the discharge of hydatids."

Dr. Todd quotes the following table of Rokitsky, showing the relative frequency of hydatids in different parts of the body. It exhibits the liver at the top of the scale, and the lungs in the lowest position but one.

1. The liver.	6. Spleen, generally with one in the liver.
2. Sub-peritoneal areolar tissue.	7. Kidneys.
3. Omentum.	8. Lungs.
4. Muscles of the heart.	9. Bones.
5. Brain.	

The mode of introduction of the germs of entozoa is a difficult problem in many cases. The germs, however, most probably, in general enter the body with the food, or with the air, and are carried to different parts of the system in the current of the blood. Dr. Todd remarks:—"Another point of great interest in this case is the expectoration of bile, and the freedom with which the bile could be made to flow from the liver into the bronchial tubes. It is evident, that there must have been a free communication between the bronchial tubes and one or more of the hepatic ducts. Can it be, that a favourite habitat of hydatids is in the gall ducts, and that this is so because of their communication through the common biliary duct with the intestine. Such an idea might explain the obvious preference which they have for the liver, supposing that their germs are introduced with the food, and pass into the biliary duct."

THE PROGNOSIS in such cases is not unfavourable: but the diagnosis is at first often perplexing and erroneous. Regarding the prospect of recovery, Dr. Todd has the following observations:—

"There is nothing in the existence of hydatids in the body which is necessarily of a fatal tendency. So long as they do not press upon or injure some important organ, they do no harm. The small hydatids which I have shown you, preserved in glass cells, were taken from a tumour which lay for years

in a woman's body, without any bad result. When very large, they will encroach upon the liver and impede the portal circulation, and cause ascites. This was the case in the patient from whom the drawing was made. In the effort to evacuate them through the lungs, there is often great hæmoptysis; vessels are torn by the mass which traverses the lung, and this hæmorrhage may prove fatal. Or the suppurative process may be fatal. But once the cyst is fairly emptied, all danger ceases, provided the transit of its contents through the lung has left no permanent damage to that organ behind it. We have quite a sufficient number of cases of a similar kind on record which have recovered, after the expectoration of hydatids, to show that our prognosis may be favourable, if only there have been free and full exit to the contents of the cyst. If, however, the cyst have not been emptied, or if there have been a second cyst, the symptoms may recur.

"After Gardiner had ceased to expectorate hydatids, his nutrition very rapidly improved, his cough ceased, and his general health was re-established; and he left the hospital the end of December. The physical signs in the right side of the chest had not yet quite recovered their normal character. There was still dulness under the right clavicle, and in the mammary region; and the breathing, though vesicular, was feeble, and slightly tubular. The lung had not yet recovered the compression it underwent. Two or three days ago (January 17) he came to the hospital, and we had an opportunity of again examining his chest. We found his general health much improved, and he said he felt as well as ever. We detected slight dulness under the right clavicle, nearly as low as the mamma. The breathing was feeble, and the expiration prolonged immediately below the clavicle—pure in the mammary region. Percussion resonant in the axilla, and dull below the axillary region. There was some fulness in the hepatic region. This fulness may possibly be due to the cyst not having yet fully contracted. I said that this man will recover, upon the authority of many other cases of a similar kind."

TREATMENT is not a subject on which much can be said. Of course there is no cure for hydatids, except their evacuation. Dr. Todd says that, in a case where the diagnosis was very clear, he should not hesitate to advise the occasional use of emetics, with the view of dislodging the hydatids. This suggestion might sometimes, in all probability, be crowned with success.

ON ALBUMINOUS URINE: AND ON SO-CALLED CHYLOUS URINE.

BY H. B. JONES, M.D.

The following remarks of the lecturer on CHYLOUS URINE are important:

"In cases of so-called chylous urine, albumen appears in the urine. I have here a specimen of urine made by a patient suffering from this disease. It was passed as white as you see it—indeed, whiter; for, as it has been standing for some months, it has become a little darker by decomposition. In another portion of this same urine, you see the white matter has risen up into a curd. If I take a portion of this urine and treat it with ether, I shall find it contains a substance perfectly soluble in ether; for, by agitating the two together, the urine loses its thick appearance, and becomes very nearly clear. (Experiment.) The ether rapidly separates again, carrying with it a great deal of fat, a slight deposit taking place. If I pour off the ether, and evaporate it to dryness, I shall get, not a crystalline mass, for the fat is not crystallisable, but a mass of fatty matter, such as you see in this specimen, which has been collected from many quarts of urine. I have here other specimens of the same urine, passed at different hours, in which no fatty matter is seen, nor can any be extracted by ether; but, if I add nitric acid and apply heat, I shall find that there is plenty of albumen present. So, also, if I add nitric acid to the liquid from which the ether was poured off, I shall be able to show, by the dense precipitate which is formed, that,

in addition to the fatty matter, there is also a considerable quantity of albuminous substance present. An interesting point, on which I was enabled to satisfy myself in this case, by drawing blood from the arm, was, that the blood did not contain any excess of fat whatever. The fat and the albumen only came at certain periods of the day; and if I kept my patient quiet, that is, if I made him lie in bed, or if I examined the urine early in the morning, before he got out of bed, I found comparatively healthy water, most commonly not containing the slightest trace of an albuminous or fatty substance. If I made him get up before breakfast, and walk about, he would pass urine containing no fat, but giving evidence of albumen in plenty, and sometimes, also, so much fibrin that the urine would coagulate, not into a white mass like blanc mange, but into a sort of jelly-like brownish coagulum, consisting of fibrin, tinged sometimes with the colouring matter of the blood. If I made him take breakfast before exercise, the urine was milky, as in the specimen before you; but, by making him lie in bed, the water was more healthy; whilst, by giving him much food, more especially fatty food, an increased quantity of fat appeared in the urine. I made many experiments as to the effect of food, exercise, rest, and medicines; these are recorded in the *Philosophical Transactions* for 1850, but more perfect medical details are given in the *Medico-Chirurgical Transactions* for the same year. The patient is an intelligent man, who keeps an accurate record himself of the appearance of the urine each time it has been passed since I first saw him, a year and a half ago. There has been no trace of the disease for many months, except on last Christmas-day. I had warned him that anything that gave increased violence to the circulation would bring the complaint back again; but after eating and drinking on Christmas-day, like other people, he came to me the next morning, bringing with him a specimen of his urine, which was milky. He was again put on the treatment which had proved efficacious before—gallic acid and rest, and again with perfect success. As much as a drachm or a drachm and a half, and even two drachms of gallic acid being given in the course of the day. Since Christmas the urine has been perfectly healthy, and I believe no fat or albumen will be found in it again, unless violent exercise is taken. With such exercise the feeble vessels allow these substances to pass through; but with rest and gallic acid the vessels are contracted, and thus the disease is checked.

“The following table of the influence of diet, of pressure, by means of a strong belt, and of medicines, is taken from the *Medico-Chirurgical Transactions*.

“*Effect of Diet and Medicines on so-called Chylous Urine.*

	Chylous in Different Degrees.	Free from Chyle.
On animal food in 1000 observations	968 times	32 times
Vegetable food	910	90
Pressure-belt loose	667	333
Pressure-belt tight	638	362
When matico was taken	474	526
When gallic acid was taken	17	983
After gallic acid was taken	0	1000

“The most interesting fact connected with this case of albuminous urine, was the occurrence of the albumen only at certain periods of the day. It is very probable that this disease, in a much milder form, occurs more frequently than has been supposed, and possibly these are the cases in which gallic acid has been said to stop the albumen in the urine of Bright’s disease.”

ON ARTIFICIAL PUPIL: WITH A DESCRIPTION OF A NEW METHOD OF OPERATING IN CERTAIN CASES. BY W. BOWMAN, ESQ., F.R.S.

This paper relates to the principles which should guide the surgeon in operating for artificial pupil; it is entirely practical, and is illustrated by several cases treated by the author.

MR. BOWMAN appears to think that better sight may be obtained, and with less risk to the organ, than has generally been looked for by surgeons; and he points out how these advantages may be secured in suitable cases. He insists on the desirableness, in an optical point of view, of *as central a position as possible for the pupil*, and shows by arguments and facts, that a central pupil, behind a somewhat nebulous cornea, is more useful than a marginal one behind a part of the cornea which is transparent. He also advises that the pupil should be made of *moderate size*, and explains the disadvantages frequently resulting from the use of Tyrrell's hook, in the pupil being made by it both marginal and large. As to shape, a narrow elongated pupil, taking the direction of a radius in front of the lens, allows of better sight than a circular pupil of the same area.

Mr. Bowman then gives some general rules applicable to the operation for artificial pupil, and of weight to determine on one mode of operating rather than another. The general object is, to accomplish most completely the optical problem, with the least possible injury to the structures of the eye. He discards altogether the plan of tearing away the iris from its great circumference (coredialysis), as optically objectionable, as well as too violent in its effect on the structures involved. He advocates the operation through the cornea, rather than through the sclerotica, and thinks it important that the corneal wound should be as limited as possible—a puncture rather than an incision, and that it should be in such a position, that the opacity it may leave may not lie in front of the new pupil. He also considers it necessary that the eye should be at the perfect command of the operator from first to last, and advocates the use of chloroform, as better than forceps or hooks, for maintaining the steadiness of the globe. The escape of the aqueous humour, until the operation is completed, is to be prevented by every means in our power.

As regards particular operations, Mr. Bowman reviews at some length the advantages and disadvantages of that with Tyrrell's hook, explaining that its principal merit is, the safety which it secures to the lens; and its defect, the frequent impossibility of the surgeon's defining the size or shape of the new pupil made by it, the iris often receding from the corneal wound, and opening out in the aqueous humour, so as to render the pupillary orifice large, irregular, and with its widest part towards the margin of the cornea.

After detailing several cases, corroborating these remarks, Mr. Bowman describes the canula-scissors, which he proposes to use, in many instances, instead of Tyrrell's hook. These scissors introduce themselves, their back edge being a cutting edge, and the canula from which the blades project occupies the wound, and prevents the escape of the aqueous humour whilst the scissors are at work, the little blades opening and shutting by means of a spring in the handle, exactly as in the canula-forceps of Charrière. These canula-scissors were contrived by Mr. Wilde, of Dublin, for the division of opaque capsule, but have received some improvements in Paris; and Mr. Bowman has the blades made very short, and the shorter of the two blunt-pointed, so that it may be passed behind the iris, in contact with the lens, without risk of injuring that delicate structure, and rendering it opaque.

The case in which an artificial pupil was for the first time made with this instrument is then given in detail; and the author goes on to propose that the canula-scissors should be used in the closed pupil, from prolapse following the extraction of a cataract, and also to enlarge the natural pupil in a given direction, in cases of conical cornea, so as to bring it opposite such a

part of the cornea, near the centre, as might be more able than the irregular apex of the bulge, to transmit a true refraction to the lens and retina.

Mr. Bowman also recommends the employment of these scissors to enlarge the natural pupil, where the cornea is generally hazy or nebulous, and where it is found, on examination, that vision is much improved by the use of atropine. The poor cannot be always using atropine; and the permanent enlargement of the pupil, by means of these scissors, is proposed as a substitute. The pupil is retained central, and the lens is uninjured.

To remedy the defects of the operation with Tyrrell's hook, where surgeons are still inclined to prefer its use, and in certain cases where it remains more applicable than the canula-scissors, Mr. Bowman has contrived a *needle-hook*, which is a Tyrrell's hook, capable of penetrating the cornea, and retaining the aqueous humour while the iris is being seized. Though the point and one edge are sharp, the side of the hook which has to be turned to the lens is blunt; and thus, with ordinary care, the capsule will escape laceration. This is no doubt a matter of primary importance, as regards the perfect result of the operation.

Appended to Mr. Bowman's paper, is an account of a very interesting case, in which Mr. White Cooper made an artificial pupil with the canula-forceps, in a case of closed pupil and posterior synechia, consequent on iritis. He seized the iris close to the centre, and tore up a strip as far as the great circumference, thus forming an elliptical pupil, and retaining the transparency of the lens behind it.

ON THE TREATMENT OF POLYPI OF THE EAR. BY JOSEPH TOYNBEE, ESQ., F.R.S.

The author divides polypoid growths, occurring in the external auditory meatus, into three kinds, viz.:—

1. The one of most frequent occurrence, and which may be called the vascular polypus.
2. The gelatinous polypus.
3. One not hitherto noticed, and which may be called the globular vascular polypus.

The author details the symptoms attendant upon the presence of polypi; and describes his plan for the removal of vascular polypus.

Polypi are generally the result of long-continued irritation of the dermoid layer of the meatus; they are always attended by a mucous discharge, often by a feeling of fulness in the ear, and very commonly by a sensation of giddiness and confusion in the head; there are, also, often loud noises in the ear.

The vascular polypus is of a red colour, plentifully supplied by blood-vessels, and so soft, that it breaks up upon being seized by a pair of forceps; it generally grows from the meatus, midway between its orifice and the membrana tympani. It is composed of rounded cells; and its surface, which is often covered by ciliated epithelium, is smooth. It rarely extends beyond the orifice of the meatus; and it does not generally increase to so large a size as to dilate it.

The treatment generally adopted of applying astringent lotions and drops, or of touching the surface of the polypus with the solid nitrate of silver, having been found in the hands of the author quite useless, he resorted to the potassa cum calce, with the success of which he has been sufficiently satisfied to induce him to recommend its use to the profession.

The potassa cum calce should consist of small sticks, about two inches long, and a line and a half thick. In using it, the ear having been first syringed, a glass tube is to be passed down as far as the growth, which, by slight pressure, is made to enter it and project into its cavity. The potassa cum calce is to be passed down this glass tube, and freely applied to the polypus at its inner extremity. The immediate effect of this escharotic is,

to change the colour of the polypus from a bright red to a livid hue; and in the course of three or four minutes, during which time the tube should be allowed to remain, it becomes pulpy, and blood oozes from it. The ear being again syringed, considerable portions of the *débris* of the polypus come away in a jelly-like state. The escharotic may be applied every second or third day, care being taken to guard the meatus from injury, as the slightest portion of the agent, being applied to it, causes the most acute pain; this pain is, however, at once relieved by syringing with warm water, which should always be in readiness. In cases where the polypus approaches the orifice of the meatus, it is desirable that a portion of the diseased growth should first be removed by a pair of curved scissors; it is important, however, that the roots should not be touched, as they are extremely sensitive.

CHOREA-LIKE MOVEMENTS OF THE RIGHT ARM AND LEG, CAUSED
BY HÆMORRHAGE INTO THE LEFT CRUS CEREBRI.

BY E. A. PARKES, M.D.

A man, aged 67, who three years previously had had an attack of hemiplegia of the left side, was brought to University College Hospital with violent chorea-like movements of the right arm and leg, and of the muscles of the neck and trunk. These had gradually come on during twenty-four hours before, without a fit or other symptom of any kind. The movements after admission were extremely violent, but ceased during chloroform stupor, and during natural sleep. They were not attended with stupor, paralysis, delirium, or any other head symptoms. The patient died on the following day, retaining consciousness to the last. On dissection, there were found old softening of the right corpus striatum, and in a less degree of the left; slight effusion in the anachnoid cavity, and hæmorrhage into the centre of the left crus cerebri, half an inch in front of the pons. The cerebral arteries at the base and in the substance were highly atheromatous, and contained firm, yellow coagula; in the centre of which plates of cholesterine were detected on microscopic examination. The heart was the only other organ examined; it was 18½ ozs. av. in weight, the increase being almost entirely due to enormous hypertrophy of the left ventricle.

ARCHIVES GÉNÉRALES DE MÉDECINE.

JANUARY AND FEBRUARY.

1. ON A CEREBRAL AFFECTION, which may be termed ACUTE GENERAL PARALYSIS. By DR. J. S. BEAU. January.
- 2* A NEW FORM OF LUXATION OF THE METATARSUS (Incomplete Dislocation Outwards): with Remarks on the Forms of Luxation of this part already known. By PROFESSOR S. LANGIER. January.
3. NEW PRACTICAL RESEARCHES ON THE CAUSES, PROGNOSIS, AND TREATMENT OF DEAFNESS. By DR. MARC D'ESPINE. January and February.
4. CAUTERISATION BY DILUTION, BY MEANS OF CAUSTIC POTASH. By S. BOURGEOIS. February.
- [Dr. B. employs this method in the treatment of malignant pustule, of *navi materni*, and of certain carcinomatous ulcers or tumours. It consists in drawing a piece of caustic potash, held in a caustic-holder in a pair of forceps, in a circular manner, over the affected part.]
5. ON DELIRIUM CHARACTERISED BY IMAGINARY PERSECUTION. By DR. C. LASÉGUE. February.
- 6.* ON ACUTE WHITE SOFTENING OF THE BRAIN IN CHILDREN. By DR. DUPARCQUE. February.
7. ON CONVULSIONS DURING LABOUR AT THE FULL PERIOD; the Indications Pointed Out, and the Means to be Used. By DRs. H. DUCLOS and J. BOUTEILLERS. Jun. February.

[When this Essay is completed, we may notice it.]

ON A NEW FORM OF LUXATION OF THE METATARSUS.

BY S. LANGIER.

Dislocation of the metatarsus has been described by Dupuytren and other authors, as taking place upwards and backwards: dislocation downwards has not yet been observed. M. LANGIER relates a case, in which there was dislocation outwards of the metatarsal bones. The characters of the dislocation are thus given:—

1. Projection inwards of the first cuneiform bone, but without change of its relations to the scaphoid bone.
2. Projection outwards of the fifth metatarsal bone.
3. Abnormal mobility of the whole metatarsus on the tarsus.
4. Perhaps, as far as can be concluded from a single case, fracture of the second metatarsal bone; for, without this, the first metatarsal bone could not be displaced outwards.

ON WHITE SOFTENING OF THE BRAIN IN CHILDREN, INDEPENDENT OF INFLAMMATION. BY DR. DUPARCQUE.

Softening of the brain may be red, yellow, putrilaginous, or white. Red softening depends on accumulation of blood in the cerebral substance; yellow, on purulent or tubercular infiltration; putrilaginous softening is of a gangrenous nature. These are all secondary affections; but DR. DUPARCQUE believes white softening of the cerebral substance to be in many cases an idiopathic affection; at all events, he doubts whether its nature is inflammatory. Several cases, occurring in children, are related by him; and he gives the following summary of the facts relating to the disease.

1. *Predisposing and determining causes* are, precocious or highly developed intellect; over-exercise of the intellectual faculties; profound or acute mental emotions.

2. *Peculiar symptoms.* Cephalalgia, with somnolency; integrity of the cerebral functions; exaltations of the special senses and of general sensibility; apyrexia, and even slowness of the circulation.

3. *Negative symptoms.* Absence of delirium, of convulsions, and of contractions—symptoms converted with softening from meningeal or cerebral inflammation; absence of coma, of more or less complete loss of intellect, of paralysis, &c.—symptoms connected with softening from serous, sanguineous, or purulent infiltration.

4. *Pathological appearances.* White softening of the brain, without any other alteration or lesion of structure.

In the treatment, Dr. Duparcque deprecates bleeding; and recommends the use of warm baths, fomentations, or cold affusions to the head, and the local application of ether or chloroform; also the cautious use of opiates. Cutaneous and intestinal derivatives are also indicated; and, from the marked tendency to intermission which is sometimes present, quinine is a most important remedy.

On the subject of *prevention*, Dr. Duparcque makes the following very sensible observations:—

It will be observed, that in most of the cases which I have related, a precocious development of the intellect, and especially a too active exercise of mental powers, ought to be considered as the predisposing and determining causes of the disease. This is another of the deplorable effects produced on the mind, health, and lives of children by the fatal influence of forced study. Young persons, of both sexes, have been noted in colleges and schools as intellectual wonders; and these precocious geniuses have sunk into individuals of ordinary intellect, and even into idiots. And much more numerous are the cases, in which the consequences are at once fatal. Every practitioner must have been struck with the number of cases of cerebritis, of meningitis, of nervous, typhoid, or other fevers with predominance of cerebral symptoms, which too often carry off children, especially at the period of *concoors* in schools for prizes.

TOPICS OF THE DAY.

London, March 29, 1852.

THE NEW ORDER OF MEDICAL PRACTITIONERS. The Apothecaries Act of 1815 at once elevated the dispensers of prescriptions to the legal status of medical practitioners;—a status which they had previously been by degrees assuming, without any effective, though amid much attempted, opposition from the physicians of that day. The successors of the apothecaries of 1815 are, to a great extent, men of the highest professional education. By them the supplying of medicines has been pretty generally discontinued, and now, *unfortunately*, we think, there is not the twentieth part of the “open surgeries” to which the less opulent were accustomed to resort. In place of the “open surgeries,” however, there are the “open shops” of druggists, who, like the old apothecaries, are medical consultants in their back parlours and behind their counters. Many of them also visit sick customers at their own homes.¹ A prestige will be given to this new order of medical practitioners by Mr. Jacob Bell’s Pharmacy Bill, and the long impending ruin of the humbler class of medical men will be consummated, should the Bill pass the legislature in its present form. At the same time, the whole of the profession will be injured; for the druggists will more and more be courted by young physicians, just as the apothecaries were courted by the “higher grades” of the profession some fifty years ago—just as solicitors (and their daughters) are now courted by hungry barristers. Can nothing be done to avert this impending moral degradation of many in our profession?

We say YES! If medical men will only combine, and get themselves represented by two or three men of their own order in the new Parliament. Seats, we believe, could be had, if candidates could be found capable of enlisting the support of the profession. By and bye, the learned professions will doubtless be represented in the legislature; but before that reform can possibly be accomplished, our profession may be destroyed.

These remarks have been suggested by our having heard, on apparently good authority, that the committee of thirteen, to whom Mr. Bell’s Bill has been referred, are likely to report in its favour, in consequence of the apathy of the profession. The only public notice which we have seen of the appointment of this committee is the following, which appears (without a heading) in the *Times* report of the proceedings in the House of Commons on the 22nd March.—“On the motion of Mr. J. Bell, the following members were appointed the select committee on the Pharmacy Bill:—Mr. J. Bell, Mr. Ewart, Mr. Bouverie, Sir W. G. Craig, Mr. Cardwell, Sir H. Willoughby, Mr. Wakley, Mr. Deedes, Mr. Hindley, Mr. Jackson, Mr. Farrer, Mr. Wyld, and Mr. Bramston.”

BACKSLIDING OF THE COLLEGE OF PHYSICIANS. The *Lancet* (March 27) states, upon apparently good authority, that under the Charter which the College of Physicians is trying to obtain, candidates for the Fellowship are to be admitted, only if they can, in addition to other accomplishments, prove themselves to be good classical scholars. We have always been advocates for a high standard of classical and mathematical attainments being exacted *from licentiates entering the profession*: but the Fellowship of the College of Physicians should be a professional distinction conferred upon eminent physicians, even though they may have become rusty in Latin, Greek, and mathematics; and any measure which tends to make the College what it once was, a mere club of Oxford and Cambridge men, must be regarded as an act of backsliding, opposed to the wishes of the most enlightened physicians, and extremely detrimental to the interests of the public.

THE INCOME TAX. This cruel inquisitorial impost, which weighs so unequally and so oppressively on the members of our profession, is, upon an

¹ DR. TUNSTALL, of Bath, calls attention to this in the *Medical Times* of March 13, p. 273.

early occasion, to be brought under the consideration of the Home Secretary of State, by an influential committee of the Provincial Medical and Surgical Association, appointed for that purpose at the annual meeting held at Brighton in August last. As the Home Secretary has promised, within a short period, to receive the committee, we earnestly call attention to the appeal for support which has been issued by that body, and from which the following is a short extract:—

“The Committee will be thankful for the names of those who are willing to come forward and volunteer evidence before the Committee of the House of Commons. They will feel greatly obliged to any medical man, whose engagements will not permit him to take a more active part, to communicate his opinions to the Secretary of the Committee. And, lastly, should any individual desire that the *facts only* of his letter be made known, his communication will be regarded as confidential, and his name not allowed to transpire. As the Committee are desirous to enlist every qualified member of the medical profession, and to obtain information from all, they would be glad to receive any communication upon this subject, addressed to their Secretary, Dr. Smith, Portland House, Cheltenham.”

APPOINTMENTS.

- COGSWELL, Charles, M.D., has been appointed one of the Physicians to the St. Pancras General Dispensary.
- GRIFFITH, Samuel, M.D., has been appointed Physician to the Incorporated Society of Ancient Britons.
- OLLIFFE, Dr., has been appointed by His Excellency Lord Cowley, Physician to the British Embassy at Paris.
- PARTIDGE, Joseph Bowen, Esq., has been appointed House Surgeon to the Cumberland Infirmary.
- WADE, Willoughby, M.D., has been appointed Resident Physician and Tutor to the General Hospital, Birmingham, in the room of Dr. T. P. HESLOP, resigned.
- WORDSWORTH, John Cawood, Esq., Assistant-Surgeon to the London Hospital, was, on the 9th February, elected Assistant-Surgeon to the Royal London Ophthalmic Hospital, Moorfields, in the room of H. H. MACKMURDO, Esq., resigned.
- WRIGHT, W., Esq., has been appointed Surgeon to the Whitehaven and West Cumberland Infirmary.

OBITUARY.

- CUMMING, James, M.R.C.S.Eng., and L.A.C. 1828, on the 16th January. Mr. Cumming and his son (a lad of ten or twelve years of age) were drowned at Matlock, in the river Derwent, in consequence of its being swollen by floods. Their bodies were not found till fourteen days had elapsed, when they were discovered locked in each other's arms. Mr. Cumming left a widow, (since deceased), and seven children, in whose behalf a subscription is now being raised. Contributions are received by Messrs. Herries, Farquhar, and Co., bankers, St. James' Street, London.
- DERRY, Samuel, M.R.C.S.Eng. 1818, L.S.A. 1819, Surgeon to the South Devon and East Cornwall Hospital, and one of the Apothecaries to the Plymouth Public Dispensary, on the 5th February, at Plymouth, in which town he had been a medical practitioner for twenty-five years.
- DOANE, A. S., M.D., Health Officer of New York, on the 27th January. He was remarkable for his diligence in translating first class French medical works, and for editing reprints of English books of the same description. He translated Dupuytren's *Surgery*, Meckel's *Anatomy*, Maygrier's *Midwifery*, etc., and edited Mason Good's *Study of Medicine*.
- DOWNIE, Sir Alexander Mackenzie, M.D., on the 3rd February, at Frankfort-on-the-Maine, aged 41. The deceased was a son of a clergymen of the Church of Scotland. He received the honour of knighthood in 1840 from the Queen, for his attention as physician to Her late R.H. the Landgravine of Hesse Homberg. During the same year, he was appointed Physician in Ordinary to H.R.H. the Duke of Cambridge. Latterly, he practised at Frankfort, where he acted as Physician to the British Embassy.

- FORBES, Sir Charles F., M.D., K.C.H., and Deputy Inspector-General of Army Hospitals, at his residence, 23, Argyle Street, on the 22nd March, aged 73.
- PASQUIER, The Baron, formerly Surgeon to the deceased Ex-King of the French, Louis-Philippe, on the 4th January, at Paris. His widow has been granted a government pension, as she was left without means.
- PUDDICOMBE, Elias Dunsterville, Esq., Surgeon, at Silvertown, Devon, on the 10th January, aged 53. He was District Medical Officer of the St. Thomas and Tiverton Unions, and formerly Assistant Surgeon H.E.I.C.S.
- SALT, Thomas, Esq., M.R.C.S.Eng. 1830, L.S.A. 1831, at Great Dunmow, Essex, (where he had practised for twenty years), on the 17th January, aged 43.
- SEATON, Edward, Esq., Surgeon R.N., late of Rochester, on the 18th March, at Dalston, aged 67.
- SERNEY, J. B. de, M.D. St. Andrew's 1802, in Southampton Row, Marylebone, in January, aged 78.
- STALEY, James, L.S.A. 1824. M.R.C.S.Eng. 1825, at Wantage, Berkshire, on the 30th January, aged 49.
- YOUNG, William, Fellow of Fac. of P. and S. Glasgow 1831, late of Summer Rode, near Hexham, Northumberland, at Douglas, Isle of Man, aged 42.

BOOKS PRESENTED TO THE EDITOR.

[*Exclusive of Periodicals Received in Exchange.*]

- BISHOP, John, F.R.S. *Researches into the Pathology and Treatment of Deformities of the Human Body.* 8vo. pp. 266. *Numerous Engravings on Wood.* London: 1852.
- DICKSON, Thomas, Esq. *On Establishing Public Hospitals for the Insane of the Middle and Higher Classes.* pp. 62. London: 1852.
- DUNGLISON, Robley, M.D. *Medical Lexicon: a Dictionary of Medical Science.* Eighth Edition: revised and greatly enlarged. 8vo. pp. 927. Philadelphia: 1851.
- EMERITUS. *Letter to the Right Hon. Sir George Grey, Bart., M.P., on Medical Registration and the present condition of the Medical Corporations.* Second Edition. pp. 38. London: 1852.
- GRIFFITH, R. Eglesfeld, M.D. *Universal Formulary: containing the Methods of Preparing and Administering Official and other Medicines.* pp. 567. London and Philadelphia: 1851.
- HOLLAND, Henry, M.D., F.R.S. *Chapters on Mental Physiology; founded chiefly on Certain Chapters contained in Medical Notes of Reflections,* by the same Author. pp. 30. London: 1852.
- LITTLE, W. J., M.D. *Hunterian Oration, delivered before the Members of the Hunterian Society at the Thirty-third Anniversary, February 4th, 1852.* 8vo. pp. 34. London: 1852.
- NUNN, Thomas William. *Varicose Veins, and Varicose Ulcers.* 12mo. pp. 63. London: 1852.
- PICKFORD, Dr. *On True and False Spermatorrhœa.* Edited by CHIRURGUS. 8vo. pp. 82. London: 1852.
- PIRRIE, William, F.R.S.E. *Principles and Practice of Surgery. Illustrated by numerous Engravings on Wood.* 8vo. pp. 952. London: 1852.
- TRAVERS, Benj., Jun., F.R.C.S. *Observations in Surgery.* pp. 230. London: 1852.

TO AUTHORS.

AUTHORS, or rather intending authors, very often ask us what they ought to write about, for our "valuable" Journal. Once for all let us say, that we never desire to stimulate writers who have nothing to write about.

DR. HEREPATH. When articles come to us in manuscript from their authors, we have a right to conclude that they are sent as "Original Articles", for publication in our "Original" department. We promised to insert the article on "Galvanism in Poisoning by Opium", when it reached us some days ago; but as we have observed it in the *Lancet* of 27th March, we cannot do so in justice to the Editor of that work, or in fairness to our readers. DR. HEREPATH's other paper, ("On Infantile Phlebitis"), came by a later post, and is now in the hands of one of the Editors.

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ORIGINAL COMMUNICATIONS.

ON THE MORBID CONDITIONS OF THE KIDNEY, GIVING RISE TO ALBUMINURIA.

By C. HANDFIELD JONES, M.B.Cantab., F.R.S., Assistant Physician to
St. Mary's Hospital.

[*Read before the Medical Society of London.*]

IN the following communication, which I have the honour to lay before the Fellows of this Society, I purpose to present a sketch of the morbid conditions of the kidney which give rise to albuminous urine; to consider the essential nature of Bright's disease, so called; and the kind of treatment which pathology and experience recommend to us. So frequent is the malady, so often does it meet us in dealing with other diseases, so greatly does it mar our efforts for the cure of those diseases, and so fatal is it when arrived at its advanced stage, that no one, I think, can feel otherwise than deeply concerned to discover as much as possible of a cause so productive of evil. My descriptions of the structural lesions will principally be taken from my own examinations, which have been numerous; but I shall not fail to refer, as occasion may be, to the works of those who have thrown so much light upon the subject.

One or two brief remarks upon the physiological condition of the kidney may be premised. It has been well pointed out by Mr. Bowman, how peculiarly the vascular system of the organ is disposed; how the short and wide renal artery suddenly breaks up into small straight vessels, going direct into the Malpighian tufts; how the stream of blood thus arriving in those curious capillary loops, is thence checked and stayed, not having an ample, but, on the contrary, a rather narrow channel of egress by the efferent vessel, which passes into the tubular plexus. The effect of this arrangement is, of course, to bring a more than ordinary pressure to bear on the membrane of the capillaries: this, even in their healthiest state, must be greater than that exerted by the blood on any other capillaries; but if congestion arises, or the

engorgement stage of inflammation, this strain will doubtless be yet further and in a greater degree increased. The membranous wall of these capillaries (I am of course speaking of those of the Malpighian tufts) is strong and well marked; and it needs so to be, for these vessels, unlike any other that exist in the body, except perhaps those of the choroid plexus of the cerebral ventricles, are bare, not imbedded in the tissue they supply, and not supported by fibre or solid substance. How differently circumstanced are the capillaries of the liver; and how much rarer is hæmorrhagic effusion in this organ than in the kidney! Everything indicates that the natural and healthy function of the Malpighian capillaries is to effuse fluid; but fluid of what kind? Exact proof is perhaps impossible; and opinions are much divided. Mr. Bowman believes that water only is poured out from the Malpighian tufts; Mr. Simon, that a solution of albumen is effused; Ludwig, that the fluid is urine containing a large proportion of water, much of which is afterwards absorbed by the tubular venous plexus. Valentin holds the converse opinion, that the fluid from the tufts is at first very concentrated, and afterwards becomes diluted. I feel much inclined to adopt Mr. Bowman's view, because analogy makes it probable that the epithelium of the tubes is the agent in conducting the secretion of the solid matters; and experiments have shewn that animal membranes are capable of altering the composition of fluids that pass through them.

The condition of the kidney which is found in acute albuminuria, whether this be the result of the poison of scarlatina, or of any other cause, is not often seen in the dead-house. Frerichs mentions that in two hundred and ninety-two cases of fatal renal disease, there were only twenty that presented the appearances which characterise his *first stage*, that of hyperæmia, with commencing exudation. I have not seen it anything like so frequently, nor, indeed, should I expect to find it except rarely; as few of the cases of acute albuminuria prove fatal before the intensity of the congestive engorgement has been in a great degree removed by treatment, or has subsided. But when an opportunity does occur of inspecting a kidney in this state, it is found to present the following lesions. The size and weight are greatly increased, even to as much as twice the normal figure. This depends in great part on the extremely loaded state of the vessels, which are everywhere full of dark blood; the Malpighian capillaries, and those of the tubular plexus, are alike distended; as well as those distributed to the mucous membrane of the calyces and pelvis. When the congestion arrives at a certain point, extravasation takes place, and thus blood is poured out from the Malpighian capillaries into the capsules, and from thence down along the tubes; in other cases, from the venous plexus around the tubes; and again from the veins that run upon the outer surface of the organ.

The epithelial lining of the tubes is not apparently much altered; its function is doubtless more or less interfered with, partly in consequence of the congestion of the vessels, and partly from the plugging up of many of the tubules with coagulated fibrine. This substance I believe to be effused from the Malpighian capillaries in a fluid state, as liquor sanguinis more or less modified, to pass down the tubes for a variable distance, and to coagulate there, either by itself alone, or

mingled with various forms of epithelial matter, or together with these and blood globules. For a certain time, which varies according to circumstances, the fibrinous coagula remain where they have formed in the tubes; but, as the fluid accumulates behind them, they are forced on down the canal, and at last are swept out, and appear in the urine, whence they form, together with other matters, the well known red-brown sediment, so characteristic of acute albuminuria. The colour of the sediment is of course derived from the blood, the colouring matter of the globules exudes from them, and tinges the epithelial particles and the fibrinous casts themselves. I once had the opportunity of watching the formation of a sediment of this kind from its outset. A youth was in St. George's Hospital, under Dr. B. Jones's care, with symptoms partly of incipient phthisis, and partly of a more indefinite character, giving one the idea that he was hypochondriac or nervous. One day I observed his water to contain a copious dark reddish deposit, which was more distinct to the naked eye than to the microscope; this consisted of very delicate flocculi, which, under the microscope, appeared as extremely pale granular films entangling some renal epithelium. No albumen was present in the urine at this time; the next day there was a trace, and the deposit was more consistent, and some blood globules were observed with it. On the fifth day from its first appearance, the deposit was noted as of a still darker red, and heavier, consisting of amorpho-granular matter, large and numerous casts, and great quantities of renal epithelium. The urine was ascertained on the seventh day to be decidedly albuminous, but doubtless had been so several days before. There was pain at the lower part of the lumbar region; no dropsy. On the eighth day from the commencement, he was cupped on the loins, which had the effect of relieving remarkably the pain, and of diminishing the quantity of deposit and of albumen in the urine. He subsequently recovered in great measure, and quitted the hospital of his own will, or was discharged for irregularity, I am not sure which. In this instance, it seems that as soon as congestion reached a certain point, liquor sanguinis was effused from the Malpighian tufts; and, being but in small quantity at first, formed only those delicate pale films, which were afterwards replaced by the ordinary casts of the urinary tubuli.

It is a matter of great interest and importance to learn in what condition a kidney remains, which has been the seat of such a process as that we have just described. Is it probably seriously injured and deteriorated, or is it nearly restored, when the disease has passed by, to its pristine integrity? Doubtless this is a question to which a general reply can scarcely be given; but my own impression decidedly is, that in very many cases of acute albuminuria, such as occur in healthy children in consequence of scarlatina, or in adults from sudden arrest of perspiration, the kidney, under tolerably favourable circumstances, recovers completely. I may mention one specimen, which was given to me by Dr. Cotton; it was from a child who seemed to be recovering from dropsy consecutive to scarlatina. He was attacked, if I remember right, with serous effusion into both pleural cavities, and died. The kidney was large, pale, and wet; by far the greater part of its secretory structure appeared to be tolerably healthy, only here and there a

tube was seen which had completely lost its natural texture, and was evidently *hors de combat*!¹

When we consider how common a complaint scarlatinal dropsy is, and how many children recover perfectly from it, I think we may entertain good hopes that adults, with sound organs, and under proper treatment, may also recover perfectly, and with scarce any greater liability than others to the far more hopeless degeneration of the true morbus Brightii. I do not see why an engorged kidney should not be as completely restored as an engorged lung: nor do I think that the removal of the exudation matter is materially more difficult in the one than in the other.

The next anatomical condition which I propose to describe, is that of the large, more or less hard, and sometimes mottled kidney. This is considered by Frerichs to be the sequel of the first condition, which we have just considered; and in this opinion he is no doubt supported by others. Rokitsansky, in particular, regards the mottled kidney as having its origin in a preceding hyperæmia. This point will be more properly considered when we have described the structural changes. The kidney is enlarged, its size and weight increased, even beyond that which occurs in the acute attack; it may rise as high as twelve or fifteen ounces. Its colour is pale, grayish or white, mottled or marbled, in various degrees, with streaks or patches of vascular redness; this applies to the cortical structure, the medullary usually presenting a contrast by its uniform and deep congestion. The capsule sometimes adheres closely, more often is easily separable from the surface. The tubes of the medullary cones seem to be separated from each other towards the base, and by their divergence produce an appearance not unlike a plume of feathers, or a sheaf of corn. On making a section of the cortical substance, the cut surface presents a peculiar confused aspect, not easy to describe, but such as one might conceive would be produced by a quantity of rather opaque matter coagulating in the interstices of a regular tissue. The surface is smooth, and presents nothing of a granular aspect. On microscopic examination, the cortical tubes are found more or less filled with altered epithelium; sometimes the quantity is so great as to obstruct and block up the tube; more often, I think, the canal is not entirely obstructed, but narrowed. Sometimes the epithelial particles are very perfectly formed and distinct; sometimes they seem to be lost in a dense stratum of granular matter. Often I have noticed that the epithelium has a peculiar *stiff* aspect,

¹ In another case of scarlatinal dropsy, where death took place after vomiting and convulsions, the kidneys were found pale, lobulated, and of healthy appearance to the naked eye. The microscope showed that the tubes, both of the cortical and medullary parts, were natural, except that a good many of them contained a reddish matter, which was probably altered blood. The Malpighian tufts appeared healthy. A long fibrinous coagulum was found in the superior longitudinal sinus, and also in the straight sinus; the former was larger in its middle than elsewhere, and discoloured and softened in this part. The brain was everywhere very "wet" and soft, the fornix softened so as to hang in shreds at one part, but the septum was not destroyed. The ventricles contained a pretty large quantity of turbid fluid; there was also a large amount of subarachnoid effusion, mingled at the base of the brain with a little lymph. These appearances may have resulted in part from the obstruction occasioned by the coagulum in the sinus; but for this, I think recovery might have taken place.

such as, compared with its natural condition, gives the idea of its vital actions or changes being arrested in part, or less readily carried on. A considerable quantity of oily matter in the form of minute drops is not unfrequently present in the epithelium; and when it is abundant, the kidneys have a decided milky white aspect. This oily matter, I think, is most often present in the medullary tubes near the base of the cones; it seems to be washed down from the cortical tubes, and to collect in this situation. In the interior of the tubes, there are often seen fibrinous casts, and sometimes globules of a yellow matter resembling very much those so frequent in the spleen, and which, like them, are probably derived from altered blood globules, or from effused hæmatin. The basement membrane of the tubes is often in great part lost; the tubes still retain perfectly their contour; but it is impossible to isolate a tube with its investing homogeneous sheath. This I think a very important circumstance, and one which seems to indicate clearly the influence of a degenerating process.

The Malpighian tufts are variously altered; some remain healthy, others are covered with films of coagulated fibrine, which obscure the capillary loops; sometimes the quantity of exudation is so great in the capsule as to compress the tuft, and reduce it into a small compass. The urine is mostly pale, contains a light-coloured sediment, consisting of casts, renal epithelium, and blood globules, in varying proportions. The foregoing description I wish to be very general, and to apply to all instances of enlarged kidney not decidedly hyperæmic, of confused or dense texture, and presenting under the microscope a more or less considerable alteration and increase of the epithelium lining the cortical tubes, without any actual destruction of them. Such a condition, I believe, may often ensue as the result of an acute attack of engorgement, which has been imperfectly subdued; but my impression is, certainly, that more often it is preceded by no decided hyperæmic stage, but that it arises insidiously, and proceeds without any noticeable disturbance of the system, until at last some secondary disease, the result of the unhealthy state induced in the blood, calls attention to itself, and perhaps to its latent cause. The fact to which Mr. Simon refers in his most instructive paper, in the *Medico-Chirurgical Transactions*, on subacute inflammation of the kidney, viz., that the mottled kidney is essentially scrofulous, confirms the view I have taken. Many of the cases I would include in the category just described, doubtless owe their origin to such an alteration of nutrition as may be properly termed subacute inflammation. In others, and I think the majority, the process is more purely and simply degenerative; while probably in all, at some period of their course, one form or other of morbid change predominates. This condition of kidney is very much more frequently found than that of acute engorgement; the number of instances observed by Frerichs amounted to a hundred and thirty-nine out of two hundred and ninety-two.¹

¹ Although I have included in the above description all diseased kidneys presenting the specified characters, yet I think it most probable that they might be further distinguished into two classes, one of pale colour and mottled aspect, not of increased firmness in texture, and not having an adherent capsule; the other, not pale nor mottled, of decidedly increased consistence, and with its capsule almost invariably adherent. The former belongs more to the scrofulous diathesis, the latter to the fibrinous. Probably there are various intermediate grades.

The last general condition of the kidney which I propose to consider, is one which is perfectly familiar to us all, and which, from my own observation, I think is certainly the most common; that in which the organ is dwindled, contracted and granular on the surface. This Frerichs considers as the third stage in his arrangement; he calls it the stage of retrocession, of atrophy. The kidney, far from being enlarged, is in many cases exceedingly diminished, both in size and weight, sometimes descending so low as one and a half or two ounces. On the other hand, its consistence is greatly increased; it has often a leathery toughness, which is the more marked in the same ratio as the atrophy. The colour of the surface is more nearly that of the natural state than it was in the preceding condition; and this appears to depend on the presence of a greater quantity of blood. The capsule is always very adherent to the surface, sometimes scarce separable without laceration: it is not unfrequently thickened in radiated patches, and probably owing to this thickening may be split sometimes into two layers, a circumstance which I have seen to prove a cause of error, by leading to the opinion that the capsule, after its removal, had left a smooth surface, when in reality its deepest layer still remained adherent. The external form is often decidedly lobulated, reminding one in this retroceding condition of the foetal kidney advancing in development. The granulations or prominences strewed over the surface are of a lighter colour than the intermediate tissue, and sometimes contrast with it very strongly; their size varies from that of a pin's head or poppy-seed, which is most common, to that of a hemp-seed or small pea. The wasting of the organ is especially manifested in the cortical structure, which is often reduced to a mere stratum a few lines in diameter; it also presents granulations in its deeper parts, similar to those on the surface. Wasting of the medullary cones also occurs, but to a less degree.

On microscopic examination of the cortical tubuli, nothing can be more marked than the utter atrophy by which they have been affected. In extreme cases, one may scarce find in a section anything except mere granular *débris*, some of these perhaps still preserving the contour of the original tube, but the greater part constituting an indefinite shapeless mass. In other less advanced cases, and in some parts indeed of all, the tubes are still discernible: they are irregularly distended and opaque, with granular contents, which have well-nigh, or perhaps completely, blocked-up their canals. Oily molecules, sometimes accumulated in considerable quantity, lie here and there among the granular matter, and increase the opacity greatly. The granulations are made up of the infarcted convolutions of tubes, and seem to be the parts in which those traces of the natural structure still persist; they remain prominent, because the intervening parts, which are atrophied in a greater degree, have collapsed and shrunk in. Traces of basement membrane, according to my own observation, and that of my colleague, Dr. Sieveking, are generally indiscernible; it appears to perish and disappear, while yet the outlines of the tubes are tolerably preserved. In this respect, I differ entirely from Frerichs, who states that he still finds in the atrophied tissue the remains of the homogeneous membrane. This author also has found occasionally, in atrophied kidneys, new-formed fibrous tissue; he allows, however, that it is but rarely

present, and that its production is by no means the essential element of the disease. My observation quite accords with that of Mr. Simon, that the generation of new fibrous tissue in the kidney is somewhat doubtful, and that it has not much to do in occasioning the pervading atrophy.¹ The Malpighian tufts, in consequence of the general collapse, appear closer together; a few of them remain tolerably healthy, others are compressed and shrunken; often the capsule is filled to a greater or less extent with an oily looking material. I have not always been able to distinguish satisfactorily between the Malpighian bodies in this state, when their capillaries are greatly compressed, and the capsule partially filled with oily contents, and cysts which are so commonly found in kidneys thus affected. The tubuli of the medullary cones appear generally more affected by infarction than by atrophy; they contain an altered, more coarsely granular, and hypertrophied epithelium, often mingled with considerable quantities of oily matter. I am inclined to think, that as the cortical structure, the normal seat of the secreting process, perishes, its function is in part taken up by the basal parts of the medullary cones which adjoin it; the medullary portion, at any rate, suffers far less from the atrophy than the cortical.

Thus far we have traced the atrophic changes of the original structure; but we have now to consider those peculiar formations which, at least by their form and number, appear to indicate the agency of an imperfect *vis reparatrix*, unable indeed to produce aught that can efficiently compensate for that which has perished, or which is capable of any higher development, but still, by its resemblance in exterior form to other natural parts, forcibly reminding the inquirer of that wonderful reparative power which the healthy organism so often displays. The cyst formation to which I allude, was, I believe, first correctly viewed and fully described by Mr. Simon, in his paper on subacute inflammation of the kidney. They had been often noticed before, and various opinions entertained of their origin, such as that they originated from dilatation of the Malpighian capsules, or from distension of the urinary tubules; but no one, I believe, had shewn in what great numbers they often existed, how minute was their original size, and how much of the apparent magnitude of a kidney might depend upon their presence. Since I first read his description, I have been in the constant habit of examining these curious formations; and, while well aware that other opinions respecting their origin were more generally held, I have never met with any evidence derived from my own observation that really militated against his view, but with much that tended to support it. Mr. Simon describes the cyst formation as a manifestation of new structure, as independent and superadded, though lowly organised growth. He believes each cyst to have its origin in a germ or nucleus particle, such as under healthy conditions might have produced an epithelial cell. This germ, instead of forming a nucleated cell, develops itself into a vesicle with clean sharp outlines, indicating the existence of a strong homogenous envelope. The cavity is

¹ Several observations, however, have inclined me to think that an *extra* tubular effusion of plasma does occasionally take place, which solidifies into granular matter, either alone or containing nuclei; once, also, I observed a considerable number of minute crystals, which seemed to lie between the tubes in the medullary and in parts of the cortical structure.

occupied sometimes by a clear fluid, sometimes by a granular matter, or by various admixtures of granular and oily matter. The size of the cyst varies extremely; the most minute are not larger than an epithelial particle, say $\frac{1}{1,000}$ inch, the largest may attain the magnitude of a cocoa-nut. This minuteness of the younger cysts seems to me, as it did to Mr. Simon, a conclusive argument in favour of the view above taken of their origin. If, as Drs. Johnson and Frerichs believe, they are dilated portions of tubes, how could they ever be seen of a magnitude inferior to that of the tubes themselves? The envelope of these cysts is occasionally of some thickness, appearing sometimes laminated, sometimes as if a second cyst were included within the first. It is rare that they possess a nucleus or any epithelial formation in their interior, but this I have certainly seen once; it seems to indicate a somewhat higher grade of development. The cysts are generally found in greatest numbers in the superficial structure of the cortical substance; and it is here that they attain, I think, their largest size, in the *same situation precisely* (be it observed) in which the degeneration of the natural structure attains its maximum. This, I think, is not destitute of significant import, in the view of their quasi-compensatory nature. Occasionally, however, they affect another situation, namely, at the bases of the medullary cones, just where these spread out into the cortex: when they are numerous in this part, I think they are generally absent from the surface. They are almost invariably closely impacted in the surrounding tissue, and are difficult to isolate completely; a circumstance much relied on by those who consider the cysts to be formed by portions of a tube being cut off by adhesion of its walls above and below a point, while the included part is distended into a pouch. That some cysts may not form in this way, I would not for a moment maintain; I think it quite possible that they may, and also from the Malpighian capsules, when the tube below is obliterated; but I do not think this is the mode of origin of the multitudinous growth which crowds so closely, in some specimens, the field of the microscope. One argument, which weighs very strongly with me in favour of Mr. Simon's view, is the fact that they are by no means found in all atrophied kidneys. Degeneration may have advanced to an extreme degree, without the production of any, or but a very few, cysts; on the other hand, numerous cysts may exist, without the tubes being in any great degree broken up: thus some other cause than the change taking place in the tubes seems requisite for the generation of cysts. The contents of a large cyst, which I recently examined, was a yellowish turbid fluid, abounding with large and small yellow-tinged granular corpuscles; in another, there were the same, with numerous free nuclei. A beautiful epithelial pavement, consisting of closely apposed nuclei, seemed to have constituted a lining to the larger. Dr. Bence Jones's researches into the chemical composition of the contents of these cysts, have shewn that they do not contain any of the organic principles of the urine, and thus that they are not, *quoad* function, compensatory structures. They contain aqueous and oily matter, and certain modifications of albumen. Mr. Simon, in two instances, detected a large proportion of xanthic oxide in them.

We come now to ask ourselves what is the essential nature of the morbid change, by which a healthy kidney is reduced to the condi-

tion we have last described: I am not now referring to the epiphenomenon of cyst production, but to the atrophic change itself. Is it essentially dependent on inflammation, acute, or subacute? on any condition of the part that necessarily is attended with pain, hyperæmia, exudation, or enlargement, and increased temperature? The language of most writers would imply at least such is the case. But ere the achromatic lens had begun to throw a new light on this obscure part of pathology, Dr. Prout, with that intuitive perception of truth which many of the fathers of medicine so eminently possessed, saw clearly, and announced distinctly, that the morbid process in Bright's disease was other and different from that belonging to any variety and type of inflammation. He called it, most justly, a *degeneration*, which might arise as the natural result of advanced age, or of premature decay from *innate inherited weakness* of the vital powers, or from *an acquired weakness*, as the preceding, either general or local.

All that has been ascertained respecting this disease, seems to me to confirm Dr. Prout's view. The textural changes, as they have been traced, seem to result from a slow, gradual change occurring in the renal tissue proper, not from alterations in the blood vessels, nor in the connecting tissue. There is but little, seldom any, trace of unequivocal products of inflammation; certainly they are not the prime cause of the morbid change. The very frequent latency of the disease, and its unobserved gradual progress for a long time, also indicate its degenerative, rather than inflammatory, character. The same is attested by the various conditions, which are justly regarded as the exciting cause of this disease; they are all such as exert a depressing, debilitating influence on the general system. Abuse of spirituous liquors, long continued exposure to damp and cold, poor and insufficient nourishment, together with excessive and fatiguing labour, exhausting discharges, venereal excesses, the mercurial and syphilitic cachexiæ, are mentioned by Frerichs as the principal causes of what he regards as the chronic form of Bright's disease.¹ To my mind, neither subacute inflammation of the kidney, nor chronic desquamative nephritis, convey a just idea of the pathological condition which really constitutes Bright's disease, and which so often produces the contracted granular kidney. I have not found the blocking up of the tubes by their epithelium so constant and marked as to assure me that it is the cause of their destruction; the tubes have often appeared greatly infarcted when there was no evidence that the function of the gland was materially impaired. If, as we know, the fibrinous moulds and masses of epithelium can be washed out of the tubes for some time, and yet the organ subsequently recover its healthy condition, why should obstruction take place to so great an extent as to be the chief cause of the succeeding atrophy? My belief is, that the essential cause of this morbid change, is the supply of unhealthy blood plasma to the gland; herewith a general deterioration takes place of all the most important textures. The coats of the blood vessels are probably altered, and allow fibrinous and albuminous fluids to transude through their mem-

¹ The bacony (speckig) condition of the spleen often coexists with some forms of Bright's disease, and seems sometimes to result from a similar cachexia; but no one would rank the alteration of the spleen as a lienitis.

branes. The epithelium of the tubes is altered; it is more bulky, coarser, and stiffer than natural, and taking healthy structure as a point of comparison, seems certainly less fitted for the discharge of its function. I would compare its condition to that of a thickened aortic or mitral valve, which has become more rigid, thicker, and less capable of free play. Until we know what is the nature of the function which the epithelium fulfils, we cannot pronounce exactly in what its morbid change consists; but I am strongly inclined to think that it is not as a mechanical obstruction that it disorders the action and brings about the decay of the kidney, but by becoming unfit for its own proper service in the work of secretion. The basement membrane of the tubes is altered, and, I believe, destroyed; and this change can be considered no other than a pure degeneration. That into a gland thus altered, blood, which at the same time is unnaturally fluid, either from the effect of the disease or from the impairment which it induces of the circulating organs, should flow in undue quantity, and distend the tubular venous plexus (especially when there is general congestion of the veins) cannot be regarded as otherwise than natural; nor can it be admitted as any proof that hyperæmia is any necessary element in the morbid change which has taken place. I have said that I believe an unhealthy condition of the blood plasma, and, therefore, of the blood, to be the essential cause of the renal degeneration we are considering: but can we make this statement more determinate? can we show at all precisely what is the nature of the degenerative process, as illustrated, either by the condition of the kidney or that of the blood? It has been supposed that the process was essentially one of fatty degeneration precisely analogous to the fatty degeneration of the liver; but if this were true, then every cat in London has Bright's disease, for rarely indeed does one see in any human kidney such a prodigious quantity of fat or oil as is invariably present in the kidneys of these animals. But this accumulation of oil induces no destruction of tissue, the basement membrane of the tubes is beautifully distinct, and there is no atrophy of the cortical structure. All that has occurred is simply the addition of a certain quantity of oil to the epithelium of the tubes, just as when a person grows fat a certain quantity of oil is added in the form of adipose tissue to his body. The liver of most fish and of fatted sheep is very commonly gorged with oil, but it is not, therefore, in a degenerated condition. This, then, cannot be the essence of the change; but it is much easier to show what it is not than what it is. I have no theory to offer, but only two remarks. One is, that as alcohol exerts a well-known influence on albuminous matter, coagulating it when in a fluid state, and as we have frequent evidence of its influence in producing cirrhosis of the liver in persons addicted to its use, a disease which in very many instances seems to belong to the class of degenerations depending on an unhealthy condition of the plasma supplied by the blood; and as, moreover, we find that alcohol is a powerful agent in inducing the disease of the kidney we are now considering, it does not seem altogether a groundless idea that it actually produces, by its presence in the blood, the altered condition of the epithelium of the tubes, rendering it more bulky, stiff, and inapt to undergo the normal chemico-vital changes.

The other remark concerns a point to which my attention was long

ago directed by some writings of a German observer, I think Dr. Eichholz. He describes, if I remember aright, a condition of the general system, which might be termed the *fibrinous*, in opposition to the *tubercular diathesis*. In the former, there is a tendency to the formation of false membranes or serous surfaces, to the thickening and condensation of fibrous membranes, to such changes as produce thickened, stiff, puckered valves, white pericardial patches, cirrhosis of the liver, thickening of the capsule of the spleen, perhaps fibrous tumours in the uterus, and contracted and atrophied kidneys. The opposition between this diathesis of the tubercular, is well illustrated by cases of which I have seen a few, where old tubercular masses, or even single cavities, existed in the apices of the lungs, with surrounding induration and puckering of tissue, while some or other of the above-mentioned indications of the "fibrinous diathesis," were also present. The supervention of the tendency to fibroid formations arrested that to the deposit of tubercle. The above account is given from what I remember of Dr. Eichholz's statement, as I have not been able to find his paper again: I am pretty sure, however, that I have represented his views correctly, and my own observation has further inclined me to confide in their truth.

We will next proceed to consider the morbid changes which the blood and various organs of the body undergo in diseases connected with albuminuria. The blood drawn in acute anasarca, presents a buffy coat, often remarkably thick and firm. The serum, after the clot has separated, has been often observed of a turbid whitish or a milky aspect: this loss of transparency depends sometimes on the presence of oily, sometimes of albuminoid matter, sometimes on that of numerous colourless corpuscles. The essential urinary constituents are retained in the blood, and often give rise to the symptoms of toxæmia. In the true Bright's disease, the sp. gr. of the serum diminishes rapidly; from 1030, which may be considered its normal figure, it falls to as low as 1019 or '20; the solid constituents from 80 parts per 1000, fell to 60 or even 41·70: this change seems to occur more rapidly in proportion as dropsical effusions quickly take place. This diminution takes place chiefly at the expense of the albumen: the oily, extractive, and saline matters, do not differ much from the normal quantity; the latter, on the contrary, seem to be somewhat increased. The most important change is that which strikes the eye of the practitioner in the well-known sallow, white complexion of the patient suffering from this disease: the proportion of red globules is remarkably diminished, sometimes to one-third of what it is found to be in health. The diminution proceeds throughout the whole disease, and seems to be even greater the longer the disease lasts. It might be supposed to be occasioned in part by the escape of blood globules from the Malpighian tufts into the urine; but I think it more likely that on account of the unhealthy condition of the liquor sanguinis, blood corpuscles are not developed in their proper amount. This is clearly a degeneration of one of the most important constituents of the blood. The quantity of urea and uric acid in the blood, seems to depend very much on the secretion being pretty free or otherwise; no proportionate relation can be shown to exist between the two substances.

Dropsy, in some form or other, is rarely absent in cases of true Bright's disease, at least during some period of its progress; out of 430 cases, there were 54 which presented none. The cause of its production has been variously assigned; some have considered it to result from a too dilute state of the blood; some from diminished pressure upon the walls of the vessels; some from alterations in the capillary vessels. I believe the first and the last of these three to be "*veræ causæ*," but that the latter is more essential; at the same time it is clear that failure of the heart's action or obstruction in any part of the circulation, will greatly tend to promote the dropsical effusion. That a dilute state of the blood is not the chief cause, is clear from those cases where dropsy is absent, although the disease has produced its other usual effects. Such patients are, I am convinced, exposed to great peril of sudden and fatal head attacks: they are struck down by apoplectic effusion, or often repeated epileptoid convulsions, die comatose, and on opening the body the perhaps latent cause of the evil is discovered in the spoiled and atrophied kidney. The cause of this increased peril doubtless is, that by the ordinary dropsical effusion much of the urea is carried off which otherwise accumulates in the blood, and produces its fatal effect on the brain.

The treatment of acute anasarca, whether occurring after exposure to cold and wet, after measles, or any other exciting cause, is sufficiently clear. The engorgement of the kidneys must be relieved, 1, by general blood-letting, if the patient's strength allow of it; 2, by cupping on the loins, which should never be omitted in any case, as it powerfully counteracts the local determination to the kidneys; 3, by tartar emetic, which, acting very much, as it does, in pneumonia, depresses the action of the heart, unloads the congested renal capillaries, promotes the action of the skin, and acts beneficially in diminishing the tendency to secondary inflammations. The employment of tartar emetic should be continued some time, the patient being of course kept in bed: warm or hot air baths should be occasionally employed, and this system persevered in until the urine is perfectly free from its dark sediment, gives no trace of albumen, and is passed in proper quantity. Many warnings have been given against the employment of saline diuretics in this complaint: I believe them to be as prejudicial while engorgement exists, as squills or the turpentine; but in the later stages of the complaint, I am inclined to think in moderate doses they are beneficial. I have recently had a case under my care, in which, after the acute symptoms had been subdued by the treatment above mentioned, I gave several doses of nitre with a little nitric acid and a bitter. The urine became quite free from deposit, and almost so from albumen. I afterwards changed this plan for a chalybeate, giving the man small doses of the carbonate of iron, on account of his anæmic aspect; but I had soon to give this up, as it brought back again the turbid state of the urine, and had evidently induced fresh renal congestion. Again I returned to the nitre and acid, and the urine recovered its healthy condition, and continued so. The bowels should be kept open, but I should not recommend active purgation in this form of dropsical disease.

In the true Bright's disease, it is of much importance to entertain

correct ideas of the pathology; and I do not indeed think it altogether indifferent whether we call the disease a sub-acute inflammation or a degeneration. For if it be an inflammation at all, blood-letting naturally suggests itself as one of the primary remedies, and the inexperienced might readily commit the error of employing it when useless and injurious. But if we name the disease a degeneration, the mind at once turns to a more appropriate class of remedies. With respect to the secondary affections which renal degeneration induces, I can offer no new recommendations to the experienced Fellows of this Society, and these matters have been amply treated of by others. But whether anything may be done towards restoring the degenerated organ, and improving the quality of the deteriorated blood, is a subject scarce touched upon by any one, and yet of the highest interest. I can but offer a few suggestions. Of course when a kidney has utterly lost the greatest part of its cortical secreting structure, the lost tissue cannot be restored; we cannot create the organ anew. But we can never during life know for certain whether an organ *is* so wasted, or whether it is only in process of being so; we cannot tell whether it be not still possible to revive the decaying power, and to repair the injured mechanism. Our guiding ideas are, I think, two; one recognising the degenerative nature of the disease, its essentially low character, and therefore seeking to oppose it by all possible corroborative means, and such as increase the general vigour of the system. Cod-liver oil, iron, quinine, regulated and active exercise, a system of training, such as an athletic employs, mental occupation; these judiciously employed in the earliest stages would, I believe, have much efficacy in counteracting the degenerative tendency. There is no doubt that the phthisical tendency, nay, the deposition of tubercle, in the lungs, may be checked, and life greatly prolonged, by such measures; why should we not employ them, also, with effect in this kindred degeneration? One can hardly help feeling that our duty, as practitioners, is not confined to the treatment of disease as it arises and excites alarm, but where the known diathesis, the exterior tokens of the inward infirmity, inspire us with too good ground for future apprehensions, we should give timely warning, and show how far easier it may be to avert the coming of the evil while yet distant, than to arrest it when its course has once begun. The second idea which would guide my treatment is the following, and is founded very much on the peculiar condition of the epithelium of the renal tubule in the earlier stages of degeneration. We know that the alkalies and several of their salts exert a remarkable influence upon albumen and allied matters, dissolving them or tending to render them more fluid. Now it seems to me quite conceivable that alkalies, either pure, or preferably, perhaps, as vegetable salts, which become decomposed ere arriving at the kidneys, may so act on the bulky, coarse, heaped-up epithelium, as to cause it to assume a more fluid state, creating less obstruction, and more ready to undergo its appropriate changes. Such an effect, or at least a similar one, was certainly produced by Mr. Brandish in his treatment of scrofulous glands by liquor potassæ; and I cannot but think we may derive a useful hint from the practice he so successfully pursued. Of course during the trial of such a plan, care must be taken to uphold the strength adequately, and not to push the remedy too fast. If

this be not carefully observed, if the action of the remedy be not most carefully proportioned to the morbid process and to the general strength, it will cease to be a remedy; it will only act injuriously. I regret that I have not experience, to lay before the Society, of the result of such a plan of proceeding as I have traced. I have only employed it partially in one case; in this, indeed, all seemed to go on well for some time; the man, a gardener, who had Bright's disease in a marked form, kept to his employment, lost his dropsy, and seemed on the whole decidedly improved; but after some weeks the lungs became gorged and vomiting set in, which I was unable to restrain. Probably the renal degeneration was too far advanced, and the attendant circumstances were unfavourable; but still the results were sufficiently encouraging, to induce me certainly to try the plan again when a suitable opportunity may occur. Cupping on the loins even Frerichs does not counsel in Bright's disease, a measure which, if the disease depended essentially upon exudation into the kidney, would seem certainly advisable, at least in small quantities, or frequently repeated dry cupping. It should only be employed when there appears to be an attack of engorgement supervening on the degeneration, and then as sparingly as possible.

I fear I have already trespassed on the patience of the Society, and will conclude by thanking them for the kindness with which they have listened to me, and requesting that some of the members will favour us with their opinions as to the nature of Bright's disease, and the means they have found most successful in the treatment of it.

APPENDIX. I am inclined to think, from the condition of the urine in two cases which I have recently seen, that albuminuria may result simply from an altered and attenuated state of the membranous wall of the Malpighian capillaries. It is quite conceivable that this change in the vessels may have taken place without any coincident change in the epithelium; and indeed that this is possible, is proved by cases of so-called chylous urine, in which after death the kidney has been found perfectly healthy. The case recorded by Dr. Bence Jones supports the same view, as no traces of epithelium of the tubes were found in the urine: liquor sanguinis and blood globules were effused from the Malpighian tufts, but the epithelium was probably unaltered, as the normal solid constituents of the urine appear to have been present. The influence of exercise in producing the effusion of liquor sanguinis in this case, and of gallic acid in restraining and arresting it, also indicate that the disease is essentially of the nature of a flux taking place from the attenuated Malpighian capillaries, much in the same way as it might from the capillaries of a mucous surface. The point that arrested my attention in the cases I have mentioned, was the perfect transparency of the urine, and its freedom from any cloudiness or sediment; this, I think, is not usual in Bright's disease.

ON THE CAUSE AND PREVENTION OF DEATH FROM CHLOROFORM.

By JOHN SNOW, M.D.

(Continued from p. 329 of last number.)

ON looking over the list previously given, it will be seen that the accidents from the administration of chloroform nearly all occurred during, or preparatory to, minor operations. The case of extirpation of the eyeball, No. 13—that of amputation of the leg, No. 17, and the removal of the testis, No. 19, are the only operations of importance in the list. None of the accidents have happened in childhood or old age; and, except the subject of amputation, case 17, and the last case in the list, none of the patients were reduced to a state of debility. The general health also of the twenty-one patients who lost their lives was probably better than the average state of it in the thousands who have inhaled chloroform without accident; for the greater number of them are stated to have been in good health, and, except Patrick Coyle, No. 4, who was suffering from phthisis, and the patient with cancer of the uterus, No. 21, it has not been recorded that any of them were effected with serious disease of any internal organ. The reason of the accidents having happened under the conditions just named is probably that in large operations—in children and old people—in those much reduced by illness or affected with organic disease, an amount of care has been taken which has not always been observed under other circumstances; for, however faulty the method of administering the chloroform may be, the exercise of attention and care very much diminishes the danger, and it cannot be denied that there has been a want of care and attention in many of the cases in which accidents have happened. In the recent trial of a medical man at Strasbourg for homicide, by imprudence and want of precaution, in causing the death of a patient by chloroform, the President of the Tribunal made some very appropriate remarks on this point. He said, “When a patient is submitted to the action of chloroform, every attention ought to be fixed on the progress of the anæsthesia, and on the state of the pulse and respiration. Instead of that you extracted several teeth without having examined the state of your patient. You acted alone, whilst men of eminence constantly procure the aid of assistants.”¹ In some of the cases all the care was certainly employed that the operator had been led to believe was necessary, and the accidents were entirely due to the faulty method of administering the chloroform.

In order to show clearly the cause of the deaths which have taken place, it is necessary to give an outline of the phenomena which occurred at the time of dissolution, in the cases of which the particulars are related. In the first case, in the list previously given, about a fluid drachm of chloroform was poured on a tablecloth, and held to the nose of the patient. Dr. Meggison, the medical attendant of the

¹ L'Union Médicale, Jan. 29, 1852.

patient, said "in about half a minute I observed the muscles of the arm become rigid, and her breathing a little quickened, but not stertorous. I had my hand on her pulse, which was natural until the muscles became rigid. It then appeared somewhat weaker, not altered in frequency." The operation was now performed; and when the semicircular incision was made, the patient gave a struggle or jerk. Regarding the state of the girl immediately afterwards, Dr. Meggison continues: "Her eyes were closed and I opened them, and they remained open. Her mouth was open, and the lips and face blanched. I called for water and dashed some of it in her face. I then gave her some brandy, a little of which she swallowed with difficulty."¹ Other means were used with the hope of restoring the patient, but without effect; and she was dead within two minutes from the commencement of the inhalation. During the operation, at the time of the jerk mentioned above, the patient made a prolonged forced expiration, during which the tongue was protruded from the mouth, and the remaining expirations and inspirations were exceedingly feeble and few.² It will be remarked that the insensibility was induced so quickly in this case, that the air the patient breathed must have been charged with vapour of chloroform to a dangerous extent, and that the blood could not have been uniformly impregnated with the narcotic in so short a time as half a minute: the heart would therefore be liable to be paralysed by its direct action. The palor of the countenance renders it extremely probable that such was the case, although we have no direct proof of it, since Dr. Meggison and his assistant were too much occupied in endeavouring to restore the patient to ascertain whether there was any pulse after the alarming symptoms set in. I have often seen convulsive movements at the time of death in animals that were suddenly killed by chloroform.

Mrs. Simmons, of Cincinnati, the subject of the second fatal case, inhaled chloroform from an apparatus contrived by Dr. Morton, of Boston, for the inhalation of ether. It contained a sponge saturated with chloroform, and one-third filling the glass globe of four and a half inches in diameter. The breathing was at first slow, and the patient inhaled twelve or fifteen times, occupying from a minute to seventy-five seconds. She became pale whilst inhaling. As soon as the inhalation was left off four stumps of teeth were extracted: the patient groaned whilst this was taking place, and as the last stump came out, which was about two minutes from the commencement of inhalation, there was a kind of convulsive motion in the limbs and body. At this instant Mrs. Pearson, a friend of the patient, placed her finger on the pulse, and observed that it was very feeble, and almost immediately ceased to beat; respiration also ceased about the same time, according to her evidence, viz., about two minutes from the commencement of inhalation; but the dentists, who did not belong to the medical profession, considered that a longer time elapsed before death.³ It is probable from the palor of the face, which came on during inhalation, that the heart was affected by the direct action of the chloroform; but if the witness Mrs. Pearson was not mistaken

¹ *Lancet*, 1848, vol. i, p. 161.

² *Med. Gaz.*, vol. xli, p. 277.

³ *Med. Gaz.*, vol. xlii, p. 79.

about the pulse, the heart did not altogether cease to beat till about a minute afterwards.

In the third case, that of the young woman at Hyderabad, a drachm of chloroform was administered in what the operator called the usual way, *i.e.*, it was sprinkled on a handkerchief and inhaled. He described what occurred as follows:—"She coughed a little, and then gave a few convulsive movements. When these subsided, I performed the necessary incisions, which of course did not occupy more than a few seconds. Scarcely a drop of blood escaped." The operator, after mentioning the means which were used to recover the patient, without avail, continues, "I am inclined to think that death was almost instantaneous; for, after the convulsive movements above described, she never moved or exhibited the smallest sign of life."¹ In this instance also death was evidently caused suddenly by the action of chloroform vapour not sufficiently diluted with air; and it seems, from the brief account of the case, that the breathing and action of the heart were arrested at the same moment.

In the fourth case, that of Patrick Coyle, Dr. Warren, who relates it,² states that about thirty drops of chloroform were used, and that the time of inhalation, as also the lapse of time from the commencement of inhalation till death, was one minute. Speaking of the symptoms, he says that the patient "showed signs of pain, by putting his hand to the part; in a moment his pulse, which was full and natural, sank; death." The cause and manner of death were evidently the same as in the last case; and it is probable that the quantity of chloroform used was under-estimated.

In the fifth case, that of Mdle. Stock, of Boulogne, death took place in nearly the same manner as in the above cases. The surgeon said, "I placed over the nostrils of the patient a handkerchief, moistened with from fifteen to twenty drops at the most, of chloroform." It is necessary to remark, that a judicial examination of the bottle from which it had been taken, proved that from five to eight grammes had been used, a quantity equal to from 77 to 123 minims; and, as there are about four drops and a half of chloroform in each minim, the amount used was more than twenty times as great as first stated. The surgeon proceeds to say of his patient, "Scarcely had she taken several inspirations, when she put her hand on the handkerchief to withdraw it, and cried with a plaintive voice, 'I choke'. Immediately the face became pale; the countenance changed; the breathing embarrassed; and she foamed at the mouth. At the same instant (and that certainly less than a minute after the beginning of the inhalation), the handkerchief moistened with chloroform was withdrawn."³ The operation of opening the sinus was immediately performed; but the patient showed no signs of life, and the operator believes that she was dead when he made his incision.

The only information I have met with respecting the sixth case, is that contained in the table of Bouisson previously referred to. Chas. Desnoyers, aged 22, a patient in the Hôtel Dieu at Lyons, affected with scrofulous disease of the left wrist, having to undergo transcurrent cauterisation of the joint, inhaled chloroform from an apparatus

¹ Ibid. p. 84.

² Ibid. vol. xliii, p. 682.

³ Ibid. xlii, p. 211.

for five minutes, and died at the beginning of the operation. The only particulars which are generally known of the seventh case, also, are confined to a short paragraph, which appeared in the *Glasgow Herald*, and was copied into the medical journals. It was stated that the patient died almost instantly after inhaling the chloroform.

Of the next case in the list, we are furnished with particulars by Dr. Warren.¹ The patient was somewhat excited by the chloroform at first, but soon became tranquil; the operation of removing some hæmorrhoidal tumours was then performed. "At this moment," the surgeon says, "my attention was arrested by my assistant calling for a wet cloth: on examining the patient, I found his face and neck of a livid, leaden hue, the eyes turned upward, the pulse imperceptible at the wrist, and the whole body relaxed; after two or three gasps, he ceased to breathe." He likewise says, that "not exceeding three drachms was administered from a napkin", and that about ten minutes elapsed from the commencement of its administration before death took place."

A very precise account has been given of case number nine.² It occurred, like the sixth case, at the Hôtel Dieu, Lyons, the subject of it being also a young man. "As usual, a piece of fine gauze was employed; it was spread over the face, leaving a free passage for atmospheric air; the chloroform was dropped from time to time upon that portion of the gauze which was over the nostrils. . . At the end of four or five minutes the patient still felt and spoke; and at the end of another minute he spoke, and was somewhat restless. Up to this time, from a drachm to a drachm and a half of chloroform had been employed. The pulse was regular, and of the normal strength. All at once the patient raised his body, and struggled so that the limbs escaped from the hold of the assistants, who, however, seized them quickly, and replaced the patient in his position. Within a quarter of a minute, one of the assistants stated that the pulse at the wrist had ceased to beat. The handkerchief was removed. The countenance was completely altered. The action of the heart had altogether ceased; the pulse could not be felt anywhere; and the sounds over the region of the heart could no longer be heard. Respiration still continued, but it became irregular, weak, and slow: and at length ceased completely, in the space of about half a minute." Various stimulants were applied to the nostrils and skin, and finally pressure was made on the chest and abdomen. "After two or three minutes, respiration reappeared, and even acquired a certain degree of fulness; but the pulse nowhere returned. Frictions were continued. Respiration became again slower, and at length ceased." In this case, we have clear proof that the action of the heart was arrested by the chloroform whilst the breathing still continued, as in the experiments Nos. 3 and 5, on animals, previously related. In this instance, the air which the patient breathed must for some time have contained very little vapour; and then it evidently became charged with it to such an extent as to so saturate the portion of blood passing through the lungs at the time, that on reaching the aorta and coronary artery, the heart became paralysed, before the sensibility of those parts of the nervous system which preside over respiration was abolished.

¹ Med. Gaz. vol. xliii, p. 712.

² Ibid. vol. xliii, p. 745, from L'Union Méd.

In the case of Samuel Bennett, half an ounce of chloroform was "sprinkled on a handkerchief, and held over the mouth and nose. . . This quantity of the agent failed, however, to produce anæsthesia, having caused only the ordinary excitement and struggling". After a delay of two hours, more chloroform was procured, and half an ounce was again applied on a handkerchief, "care being taken to allow the entrance of air at short intervals". Insensibility was induced, and the toe was amputated; the chloroform being applied, as I was told, during part of the time of the operation. At the close of the operation, no blood escaped when the pressure was removed from the arteries; the patient was in fact dying, and in a short time expired. "A few inspirations were noticed after the pulse had ceased at the wrist".¹ In this, as in two subsequent cases, the first attempt to cause insensibility failed; a circumstance which illustrates the uncertainty of the method that was employed to give the chloroform, and which affords additional proof of the fallacy of the opinion which attributes the accidents to idiosyncrasy, or peculiar susceptibility; for it cannot be supposed that a patient could be the subject of two opposite idiosyncrasies, or could have a want of susceptibility on the first occasion, and a greater susceptibility than usual two hours afterwards.

Of the next case—that of Mdme. Labrune—we are told, "complete insensibility was not produced at the first trial: more chloroform was placed on the handkerchief, and she drew a full inspiration. Her countenance immediately became pallid; her features were visibly altered; there was dilatation of the pupils, with a convulsive rolling of the eyes; and no pulse could be felt. Every attempt was made to restore life, but without success. She died as if struck by lightning".² The instantaneous arrest of the circulation, on a full inspiration being taken, immediately after more chloroform had been placed on the handkerchief, is particularly worthy of notice. The heart was paralysed, in this instance, as quickly as in experiment No. 4, on the rabbit; and this accident, amongst others, illustrates and confirms the calculations which were made, in the former part of this paper, on the probable effects of 100 cubic inches of air, charged with ten per cent. of vapour, in the cells of the lungs.

The twelfth case occurred in St. Thomas's Hospital. The chloroform was administered by a non-medical person—a sort of surgery man. An inhaler was used, though, in my opinion, not one of the best construction. It was when Mr. Solly had just removed the toenail that the danger of the patient was perceived. "After struggling for about a minute, he became still, the skin cold, pulse scarcely perceptible, and soon ceased to be felt at the wrist; respiration became slow and at intervals, but continued a few seconds after the cessation of the pulse".³ The impropriety of entrusting the administration of chloroform to a non-medical person, however able the on-lookers may be, having, I believe, been generally admitted, I need not enlarge on that point, but would observe that in this, as in several other cases, it was whilst the attention of every competent person present was absorbed by the operation, that the dangerous symptoms commenced.

¹ *Lancet*, 1849, vol. i, p. 205.

² *Med. Gaz.*, vol. xlv, p. 478, from *L'Union Médicale*, Sept. 8, 1849.

³ *Ibid.* p. 757.

In cases 3, 10, and 16, it was the absence of bleeding which called attention to the dangerous state of the patient.

I am not aware that full particulars have ever been published of the next case, that of a girl named Jones, who was about to undergo extirpation of the eyeball. It is stated, however, that a drachm of chloroform was used, and that she expired instantaneously.¹

In case fourteen, that of a young lady at Berlin, the chloroform was poured on a sponge, which was covered with a napkin. The dentist (not a medical man) made five unsuccessful attempts to get his patient sufficiently insensible; and when he did, what was most likely to happen under such circumstances, he committed an error in the opposite direction. His patient suddenly died, almost at the commencement of his sixth attempt, stretching herself out, and frothing at the mouth, at the moment of death. There is no account of the pulse or respiration.²

The case which occurred on board ship at the Mauritius, was included in a list of deaths I made out in 1850;³ but I am not aware that it has been otherwise published. A report of the case was sent to the Board of Ordnance, and also to the Admiralty. I had the opportunity of reading one of these reports, through the kindness of the nobleman at the head of the department to which it was sent, and I made a note of the chief particulars, as soon as I got home. As the report was a very able one, it is to be regretted that it has not been published. The accident occurred to an artilleryman, aged 24, who required to have the last phalanx of the middle finger removed. In other respects, he was considered to be in good health. Two scruples of chloroform were first poured on the handkerchief with which it was administered, and then one scruple more. It was observed that the face turned pale, and the pulse and breathing ceased, soon after the chloroform was discontinued. The measures which were employed to restore him were of no service. The lungs, after death, were found to be emphysematous; and, upon inquiry, it was ascertained that he had been short of breath on exertion. The reporter considered that the emphysema was the cause of death, by interfering with expiration, and thus detaining the vapour; and it must be admitted that, if the vapour were not sufficiently diluted with air, the emphysema would increase the danger. At the same time, I have had practical experience to show that, when it is sufficiently diluted, it may be safely inhaled, even in extreme cases of emphysema.

The case at Guy's Hospital, is one of those in which the first endeavour to cause insensibility failed; and also one of those in which the sudden cessation of bleeding was the means of calling attention to the danger of the patient. Mr. Cock said, in his evidence at the inquest: "The ordinary machine was used, and, as it had not the effect, witness directed that a napkin should be folded into the shape of a cone, which was applied with chloroform. The operation of removing a portion of the bone occupied one minute and a half; but before it was completed, the blood which was gushing out suddenly stopped, when witness directed Mr. Lacy to feel the pulse of deceased, and they found that deceased had expired."⁴

¹ Med. Gaz. p. 1007.

³ Med. Times, vol. ii, p. 230.

² Ibid. vol. xlv, p. 483.

⁴ Med. Gaz., vol. xlv, p. 89.

In case seventeen, which occurred at the Cavan Infirmary, a fluid drachm of chloroform was poured on a bit of lint, which was placed in a hollow sponge, and the sponge was enclosed in a towel. As there was some delay, half a drachm more was added. The patient had not taken more than fifteen inspirations after this, when the anæsthesia was said to be complete. The towel was removed from the face, a slight convulsive action of the left eyelid was observed, and there was some froth at the mouth. On a more minute examination of the patient, he was found to be dead.

There has been no full account published of the fatal case at the Stepney Workhouse. It was stated at the inquest that half a drachm of chloroform was administered without effect, and then half a drachm more was applied, when the patient suddenly expired. I was informed by a medical man, living in the neighbourhood where this case happened, that the handkerchief on which the chloroform was administered was tied behind the head of the patient; but, as my informant was not an eye-witness, I cannot state with certainty that such was the fact.

Case nineteen on the list is important, as having given rise to a prosecution. The medical man, an officier de santé, named Kobelt, was accused of homicide, by imprudence, want of precautions, etc. The chloroform was administered on a handkerchief, and the accident occurred as suddenly as any of the others. The husband of the patient stated that the whole process did not last a minute. "I observed attentively," he said, "during this time, and the character that her countenance took all at once made me apprehensive. I spoke of it to the operator, who tranquillised me, and continued to extract the teeth. After the third tooth, however, he partook of my apprehension, suspended the operation, and proceeded to adopt measures indicated by the circumstances."¹ Professor Sédillot, who had to pronounce an opinion on the case, after hearing all the evidence, expressed himself very nearly as I did, when alluding, on a former occasion, to the death which occurred in Westminster.² He said: "I do not think that M. Kobelt is guilty of imprudence or of rashness, because that officier de santé has followed a practice very habitually employed, and even recommended, by eminent practitioners, whose example and authority were sufficient to inspire him with security, and shade him from reproach." The accused practitioner was acquitted. The above remark of Sédillot applied to the plan of causing insensibility very rapidly, as first recommended by Dr. Simpson; and he added some observations, to the effect that, when used in a different manner, chloroform is free from danger.

In the case at the Dreadnought Hospital Ship, all the precaution seems to have been taken that is possible in giving undiluted chloroform on a handkerchief; and, if the quantities that are mentioned as having been poured on were actually measured, this case would strongly confirm the opinion that insensibility cannot be caused in this way, without some degree of danger. Twenty minims, it is said, were poured upon a linen cloth. At the expiration of a few minutes, this had been dissipated, producing only very trifling excitement; a second

¹ L'Union Médicale, 29 Jan. 1852.

² Edin. Med. and Surg. Journ., No. 180.

dose, of the same quantity, was then administered in the same way. Ten minims more were put on the handkerchief, and finally other twenty minims. When the patient was insensible, the operation was commenced; but it had proceeded only a very little way, when the flow of blood and the pulse ceased at the same moment. The breathing also stopped at the same time, but the man afterwards took one or two deep sighing inspirations.¹ It is evident that the last quantity of chloroform was inhaled in a too concentrated state, and that the heart was paralysed by the absorption of vapour which was present in the lungs at the instant when the inhalation was discontinued.

We have no account of the manner in which the breathing and circulation ceased in the last case of the list, for no one was observing the patient at the time. The chloroform was administered for the removal of impacted fæces from the rectum, a proceeding which would otherwise have been attended with great pain on account of cancerous disease in the neighbourhood. The medical attendant administered the chloroform on a handkerchief, and used altogether eight or ten drachms. He says: "When I found the arm fall after being raised (a very uncertain sign to rely on), I proceeded to and accomplished the operation. At this time she was not inhaling." On turning his attention again to the state of his patient he found that she was dead.²

Since the former part of this paper was sent to the press a fatal accident has unfortunately happened, in St. Bartholomew's Hospital, to a young man, aged 23, affected with aneurism by anastomosis of the right ear and surrounding soft parts. Mr. Lloyd, having tied the temporal artery the week before, under the influence of chloroform, with advantage, was proceeding to tie an artery between the mastoid process and ramus of the jaw, when the patient suddenly expired from the effect of the chloroform, which was administered by one of the dressers with an apparatus which had been used on the former occasion. In from five to ten minutes the usual effect was produced, the patient having previously struggled much. The operation was then commenced; but no sooner had Mr. Lloyd cut through the skin than it was stated that the pulse had suddenly ceased. The chloroform was at once removed, but in a few seconds the patient had ceased to breathe, and no pulsation could be felt in any of the arteries, or at the heart.³ Under the use of compression, percussion, and other means, the act of respiration was several times performed again, on two occasions, and it is stated that "the circulation was observed to be returning."⁴ I understand that the red colour returned to the face, but have not learnt whether the pulse or action of the heart was distinctly felt or heard. The respiration might cause the colour to return to the face without a true circulation, as I have seen whilst inflating the lungs of still-born children; for if a portion of red blood be mechanically displaced from the lungs by the motion of the chest, it will be sent on by the contractility of the arteries, which continues for some time after death. If the heart had recommenced to beat, complete recovery would most likely have taken place, for such has

¹ Med. Times, 1851, vol. ii, p. 98.

³ Med. Times and Gaz., p. 203.

² Ibid., 1851, vol. ii, p. 620.

⁴ Loc. cit.

been the result, under similar circumstances, in the observations I have made on animals.

I have been kindly informed by Mr. Paget of a death from chloroform, with which I was previously unacquainted. It occurred on May 22nd, 1850, in the practice of Professor Carl Santesson, in the Sera-phim Hospital at Stockholm. In this case also the heart was paralysed by the direct action of the chloroform, and the breathing continued after the heart had ceased to beat, as in some of the other cases. The patient, a man thirty years of age, was affected with hydrocele, and there was some suspicion of disease of the testicle. It was consequently intended to operate on the hydrocele by incision, in order that the testicle, if diseased, might be removed. The chloroform was administered in the same way that Professor Santesson had seen it exhibited by Dr. Simpson, except that it was poured on a little cotton, which was placed at the small end of the cone, into which the folded towel he made use of was rolled. About a drachm and a half was first poured on the cotton, and the patient was told to inhale in long and deep inspirations. This quantity being nearly evaporated in two or three minutes, a drachm more was added. After a few inspirations rigidity and struggling came on: these subsided, but in a little time returned more strongly than before, and the towel was removed from the face until the struggling ceased. The patient, however, not being sufficiently insensible to undergo the operation with the necessary quietness, the towel was reapplied, when, after a few inspirations, the pulse suddenly ceased. The face and the whole surface of the body turned pale, the eyes rolled upwards and inwards, and the breathing became very slow, but full and deep, the intervals between the inspirations becoming longer, until the respiration ceased altogether. The patient died before the operation was begun, and within five minutes from the commencement of inhalation. During the application of various means of resuscitation, including the dropping of cold water *guttatim* on the epigastrium, the breathing returned, and continued for the space of three or four minutes; but the pulse and sounds of the heart did not return.

The above particulars of the mode in which death took place in the various cases of accident, when considered in connexion with the experiments on animals described at the commencement of the paper, show clearly enough that in every instance the air breathed by the patient just before death, was too highly charged with chloroform to be consistent with safety; for if the air contain not more than about five per cent. of vapour, symptoms of danger would exist for a considerable time before death; and even should the inhalation be continued till the patient ceased to breathe, the action of the heart would survive the respiration—a circumstance which has not been observed in any of the fatal cases.

(To be continued.)

ON VASCULAR EXCRESCENCES OF THE MORE EXPOSED PORTIONS OF THE MUCOUS MEMBRANE AND CERTAIN OTHER PARTS OF THE BODY.

By H. BURFORD NORMAN, Esq., F.R.C.S., Surgeon to the North London Infirmary for Diseases of the Eye, and to the St. Marylebone General Dispensary.

THE various elementary textures, or tissues of the body, have been made with much propriety and practical usefulness the basis of certain general nosological divisions and classifications. Thus there have been classified under several heads the diseases of bone, of the skin, of the serous and of the mucous tissues. This system is founded upon the fact, that structures anatomically alike are liable to derangements, both of function and of organisation, exceedingly similar. And thus it happens that the natural history of the diseases of any texture is made complete only by the study of those diseases in the various positions, circumstances, and connexions, in which such texture is found. And so also of any special form of disease of a particular texture: if we wish to learn all that can be learned about it, we must search for the information we desire in the whole extent of such texture. We must not expect to find in the illustrations of a disease of any texture identity in symptoms, objective or subjective, in all situations, for in the textures themselves there are minor differences of structure or position, and the influences to which they are subject; but in the study of the analogous diseases of parts agreeing in their general characters, much light is shed by one upon the other. Not to prolong these general observations, I may at once refer to a particular form of morbid growth of a given tissue—the mucous. Amongst other morbid changes, this tissue is in an especial manner liable to become the seat of *excrescences*, which assume, according to various circumstances, the forms of granulations, polypi, etc. In two former papers, I have alluded to some of the more important of these growths which affect the urethra, especially, that of the female, and the urinary bladder. Now I purpose to connect these with others like them in other parts, in the hope that the consideration of all together may tend to throw some light upon each class, and that the consideration of each class may furnish some general deductions having reference to the whole. Descending from the head to the trunk, it will be found that the portions of mucous tissue forming the outlets or external termini, both of the great gastro-pulmonary and of the genito-urinary divisions of the mucous membrane, are occasionally the subjects of such malformations as are variously termed villous, papillary, or granular condition, excrescence or polypus: that these or similar morbid products are also to be met with in certain other situations which are anatomically and physiologically related to the mucous outlets; that they occur at least under two apparently very different circumstances as to origin, in one class of cases seeming to be quite spontaneous, and in another class having a certain assignable and sufficient cause of growth, although the explanation of the relation of the cause to the effect, or of its *modus operandi*, may be very difficult; and, lastly, that their effects vary chiefly in reference to the function of the part which they affect.

CONJUNCTIVA. Commencing with the mucous lining of the eyelids, we find, *first*, the condition termed granular conjunctiva, or granular

lid; and, *secondly*, vascular excrescences of the conjunctiva. The former distressing condition is one with which, unfortunately, most surgeons are too familiar; whilst at the same time they are painfully conscious that their means of remedying it are at best uncertain, and, to some extent, cruel.

This grave and serious evil, which from its frequency I need not here stop to describe, appears to me to consist *anatomically* of simple hypertrophy of the villi of the palpebral conjunctiva, and, *pathologically* considered, to be the consequence, in a great majority of cases, of the injudicious and unwarrantable use of stimulating applications, especially the nitrate of silver, in the treatment of the catarrhal and strumous forms of ophthalmia—an observation made long ago by Mr. Tyrrell, and confirmed in my experience; and *practically* to be one of the most intractable diseases with which surgeons have to do, short of malignant affection, rarely admitting of a cure but by such means, as entirely destroy the natural characteristics of a mucous membrane, and convert the lining of the palpebra into a firm cicatrix.

I have guarded myself by the expression “in the majority of cases”, from the possibility of being supposed to impute *every* case of granular lid to mal-practice: there are other causes which bring about this malady. I have now under my care a young person, in other respects grievously afflicted, in whom the granulations on the lower lid of the left eye are so large as to project nearly over the edge of the lid. In this case, the cause is a continued irritation extended to the lid from the lachrymal sac or nasal duct, which has been long partially obstructed by a carious state of the os unguis. Here I have the means of knowing, as in a few other instances, that no stimuli have been habitually used, and, therefore, infer that the local irritation of the obstructed lachrymal passages has been enough to produce and keep up the morbid state of the lid, which is now much less marked than it was some months ago, since the passage of the tears to the nose has been restored by the use of a style, which she wore in the nasal duct; and, since a steady, persevering attention to her general health and avoidance of all exposure of the eye during a winter's residence in-doors, while under treatment for angular curvature of the spine, have placed her under most favourable conditions for this result.

This granular condition of the conjunctiva, which it is not proposed to dwell on at any length in this paper, occurs in forms which vary from a slightly turgid and villous state of the membrane, *and more particularly of the palpebral portion*, to one in which the enlarged villi project in the form of separate excrescences, *especially from the looser portion of this membrane* of the eye as it is reflected from the palpebra to the globe. The second form of excrescence of the conjunctiva, Mr. Tyrrell has fully described in the following words:—“These (excrescences), like the morbid growths from other mucous surfaces in the neighbourhood of common orifices, are usually of a gelatinous or fleshy consistence. If arising beneath the palpebra, they produce considerable irritation by their friction during the movements of the globe or eyelid, the pain created being similar to that which occurs from the presence of an extraneous body; but when attached to the semi-lunar fold of the conjunctiva near the inner canthus, or to the surface of the

caruncle, very little inconvenience results from them, unless they acquire considerable magnitude. It is in the latter situation that I have most frequently seen them, but occasionally also in connexion with the conjunctiva at its point of reflection from the globe to the lid: they are usually attached by narrow bases, and resemble in colour the ordinary polypi of the nose or pharynx. They possess but little sensibility, and are, I believe, the result of chronic inflammation. I have met with them in the eyes of persons of all ages. The treatment to effect their removal is very simple. The excrescence should be elevated by a pair of forceps, and separated from the conjunctiva by means of the scissors or knife; after which, the nitrate of silver in substance should be applied to the surface of the wound, and weak astringent lotions frequently used. Unless very much neglected, they seldom produce irritation, and the patient is usually led to seek medical advice, more from the inconvenience and deformity they may occasion, than from any suffering they may produce."

I have made notes of three cases which have come under my own observation, affecting severally the semi-lunar fold of the conjunctiva, the upper and the lower lid. In the first situation, in the left eye of a stout, healthy man, aged thirty-six, the little growth had existed about a year and a half, without occasioning any inconvenience; but two days before he consulted me (August, 1847,) it became rather suddenly turgid, and burst, with a little external bleeding, and some effusion under the neighbouring portion of the conjunctiva, occasioning ecchymosis. The growth was not more than a quarter of an inch in length, of a bright and deep red colour, very delicate texture, but slightly sensitive, growing by a little pedicle from the margin of the semi-lunar fold, and lying along the free edge of this membrane upon the globe. In this position (the caruncula and other parts being much redder than natural) it was scarcely perceptible, except the eye was in motion: some little irritation and uneasiness in the part were complained of.

I removed this growth exactly in the manner described by Mr. Tyrrell; and during the week following, the patient remained under my observation without any appearance of its recurring.

This excrescence was spontaneous; at least no cause could be ascertained or suggested for its occurrence. Its becoming turgid, bursting, bleeding, and then occasioning inconvenience, is a new feature in the history of such growths.

In the two following instances the excrescences were thrown up in granulating wounds, a circumstance requiring to be noticed in reference to such productions. In the first, a respectable tradesman, in advanced life, came to me from Lincolnshire to consult me about some tumours in one of his eyelids; they were of the ordinary encysted kind, and the lid was quite disfigured with them. Those that were sufficiently advanced I punctured; and having squeezed out their contents, I applied the point of nitrate of silver to the cavities. One very large and hard, about the centre of the lid, I removed by excision from without. In removing it the lid was penetrated. The external wound healed quickly; the internal one *appeared* to do so, and the patient returned to the country seemingly cured. A few weeks afterwards, he presented himself again to me in town, suffering much inconvenience from inflammation of the conjunctiva, and a disagreeable sensation of some-

thing rough felt constantly in the eye, which was much inflamed as to the conjunctiva, but presented no other appearance of disease. On everting the upper lid, however, the mischief was soon accounted for. An excrescence, attached by a slender and very short pedicle to the lid, and expanding into a cup-shaped disc of one-third of an inch in diameter, which adapted itself to the convexity of the globe by its posterior, and to the concavity of the lid, from which it grew, by its anterior surface, sprung from the point where the lid had been punctured, like a small fungus, of a florid colour. The growth was removed and treated in the same manner as in the preceding case, and with the same effect.

In the second instance of this kind, a bricklayer's labourer, about forty-five years of age, applied to me at the Eye Infirmary four years ago, suffering from conjunctival inflammation and a sensation of some foreign body being between the globe and lower lid, which had existed for some months without advice being sought. Such a body was soon perceived in the form of an excrescence projecting a little above the edge of the lid from below. On everting the lid, I observed that its inner surface was marked by cicatrices forming bands between the globe and lid; from one of these growths sprang a small polype-shaped florid excrescence, about a third of an inch long. The cicatrices were the result of an injury to the conjunctiva from some lime thrown into the eye about a year before. This growth was treated by the same means, and with the same result as before-named.

THE NOSTRILS, PHARYNX, AND MOUTH. Here, in the form of the gelatinous polypi so familiar to surgeons, is a very common instance of an excrescence of the mucous tissue; but I do not wish to include this, any more than similar growths in the meatus auditorius or uterus, in the category of cases now under consideration. Other non-malignant excrescences are found in these parts, more properly coming within the scope of this paper.

In the nostrils, there may often be noticed, by those engaged in practice in the metropolitan charitable institutions, a growth, more or less distinct, situate upon the turbinate bones, and narrowing or obstructing greatly the meatus of the nose. I have seen many instances of this affection: in some, the membrane has been simply thickened and villous; in one instance, it formed a distinct projecting mass in each nostril. In most cases, the affection is accompanied by an increased discharge from the nose, which is thinner than natural; in some, the secretions cannot come forward, and are consequently swallowed, or expelled by the mouth; the voice becomes thick, and the articulation indistinct, as it is in great snuff takers; the mouth is kept constantly open; respiration by the nose is difficult and sonorous; the patient is subject to sensations of suffocation and uneasy sleep and dreams; the shape of the nose is sometimes changed, as it is by ordinary polypi, but this is, in my experience, rare. I have never noticed it strongly marked, except in one case, previously alluded to; and in which, after long local and general treatment proving useless, I at length resorted to operation, and cut the tumours out of both nostrils by means of a hook and blunt-pointed bistoury. In some examples, the disease has appeared to arise from the irritation produced by a diseased tooth, and has subsided on the extraction of the tooth; in some, it has appeared to me to be the consequence of a cachectic condition of the system, and has been benefited by attention to the general health, and by the use of

astringent lotions; in others, neither has the cause been evident, nor treatment of much avail. This disease is not painful, nor does it show in general any disposition to bleed. In the case which I operated on by excision of the growths, the hæmorrhage consequent upon the operations was considerable.

In the pharynx, I have never seen any other form of excrescence than the polypus before alluded to, and a certain granular condition, the consequence of inflammation.

In the mouth, under the influence of various irritating causes connected with the teeth, the gum throws up slight papillary growths or elevations, altogether distinct from the fibrous, cartilaginous, or osseous tumours of this part, sometimes very painful, especially when sprouting up, as they often do, between two teeth, and so subjected to a great degree of pressure. These growths, depending upon some ascertainable irritating cause, whether that be the pressure upon the gum of a portion of gold with which a cavity in a tooth has been stopped, upon inflammation of the alveolus and fangs of a tooth, or other cause, are generally remediable by removing the cause itself; and, during their existence, may be kept tolerably free from uneasiness, by the careful application of the stick of nitrate of silver, which arrests or delays their growth, and diminishes their sensibility. Occasionally, growths of this character assume a considerable magnitude; by their increase, they press upon and loosen the neighbouring teeth, not ceasing to be reproduced, however carefully they are removed by cutting, caustic, or ligature, until the offending teeth are extracted.

Mr. Bell, in his admirable work on the teeth, gives a full and interesting account of this and other tumours of the gum, which will well repay a reference to that work. He observes, respecting the growth in question, "that it never occurs on a part of the gum from which the teeth have been removed", and that "the usual seat of its occurrence is on the transverse process of the gum passing between the teeth".¹ On this account, one of its earliest symptoms which attracts notice, is a slight degree of separation of two teeth, in most cases by the partial yielding of one only; and, on examination, the gum is found to be enlarged at this part, not only swelling between the teeth, but also pressed out, as it were, on the external and internal surface, though in other respects having a perfectly healthy appearance.²

The cavity of carious teeth, in which the pulp has become exposed, is also sometimes the seat of excrescences, some of which are excessively painful, and others scarcely sensitive. According to Mr. Bell,³ the sensitive excrescence seldom admits of any other treatment

¹ BELL on the Teeth, p. 233.

² Since writing the above, a lady under my care, on account of another disease, asked me to advise her upon such a growth. The first molar tooth of the lower jaw on the right side had been broken off in an attempt to extract it some time previously, and the stump remained in the jaw, not projecting above the gum; the second molar tooth was hollowed out by caries; a tumour of the kind named had sprung up between the two teeth, and in its growth tilted over the hollow tooth, into the cavity of which it grew and filled it. The tooth was occasionally very painful, the growth not at all so. I advised her to have the hollow tooth and the stump extracted. The former only was removed, as she had not courage to submit to further operation; but the result has proved quite satisfactory, the excrescence having since completely subsided.

³ Op. cit. p. 207.

than extraction of the tooth; while I am informed by another experienced dentist that he is in the habit of destroying such productions by the application of an exceedingly minute portion of arsenious acid in a drop of creasote, which effectually destroys the excrescence and the internal pulp of the tooth, after which the cavity may be stopped. The non-sensitive tumour may be cut away, although not without occasioning much hæmorrhage; and after this has ceased, the application of caustic, I am informed (though it does not accord with Bell's opinion), will prevent the reappearance of the growth. These productions are of course only similar in appearance and character to those arising from the mucous membrane; they are *not* of that membrane.

EXTERNAL AUDITORY PASSAGE. Here various forms of excrescence are found; some of these, such as the gelatinous polyp and the wartlike fleshy mass, sometimes met with, cannot be called vascular; other forms are highly so. Some of these have origin in the meatus externus, and are occasioned by the protrusion of florid granulations from the narrow orifice, by which an abscess has opened into the meatus;¹ others arise in the form of granulations from the outer surface of the membrana tympani, and a third set from the cavity of the tympanum itself. The first of these varieties seems to correspond very closely with some of the cases that have been referred to as occurring on the eyelids, and to have what may be termed a traumatic origin. The second, I believe, occurs as spontaneously as any other morbid growth, although Mr. Saunders² doubted whether they ever did occur in the uninjured external canal, and referred all those which he saw and related in his work to a prior injury of the tympanum (inflammation and suppuration terminating in partial destruction of the membrane), considering them to be the result of the third stage of inflammation of the middle ear. Many of them do indeed arise in that situation, and are accompanied frequently with disease of the bones. The consequences of these growths in the auditory passage are chiefly felt in various disturbance of the sense of hearing, deafness, noises in the ears and in their appearances, which have been recently very well described in a series of papers by Mr. Toynbee;³ they very closely resemble some of the excrescences of the urethra and other parts, and in their treatment they succumb to the different methods of treatment which have been advised for those. Mr. Saunders recommended their extraction by the forceps. Mr. Toynbee very justly prefers the use of a suitable caustic (*potassa cum calce*), as less likely to do injury to the organism of the ear, and as most conducive to a favourable issue, and because extraction is in truth often impossible.

RECTUM. Here, besides the polypus, of which Mr. Syme⁴ has recorded excellent examples, and of which Mr. Mays, Mr. Curling, and some others, have treated in their works on the rectum, there is met with not unfrequently a morbid condition very similar to others referred to in this paper—a condition in which the mucous coat of that intestine near its orifice is the seat of one or more vascular excrescences of varying superficial area, and greater or less elevation, forming either villous patches or raspberry-like growths, and occasioning (sometimes to a degree that is very distressing) pain and heat in the parts, tenesmus, bloody and mucous discharges, a general irritable state

¹ SAUNDERS. *Anat. and Dis. of the Ear*, p. 24.

² *Op. cit.* p. 26.

TOYNEE, in *Med. Times and Gaz.*

⁴ SYME on the Rectum, p. 100.

of the digestive organs, with great impairment of the nutrition of the body. The origin and cause of these growths are often or almost always involved in obscurity. They show no readiness to yield to any general treatment, but are for the most part like all similar productions, amenable to that which is local—the less severe forms being sometimes cured by cold astringent injections, aided by such dietetic and medicinal treatment as causes a regular and easy action of the bowels; the more severe and distinct growths only yielding to such means as entirely destroy their texture, and produce a thorough change in the structures at their base. Of these means, the strong nitric acid is perhaps the most valuable; and, although it is such a destructive agent upon the tissues with which it comes in contact, proper care enables the surgeon to use it with confidence and precision, so that all its effects shall be concentrated on the part intended to be submitted to its agency.

OS AND CERVIX UTERI. In entering upon the "*debateable land*" of the os and cervix uteri, I wish to say but very little, and only to record the opinion which I have formed from such observations as I have had the opportunity of making, that the so-called ulcers of this part are for the most part at least to be classed amongst the cases now under consideration, in which, under the influence of causes, local and constitutional, the natural structures of the mucous membrane become hypertrophied, preternaturally vascular, and morbidly sensitive, giving rise in the sequel to symptoms which have reference to the functions of the part affected and disturbed by the local disease, as in other instances and in other situations.

It may perhaps be said that in grouping together the various forms of disease referred to in the preceding remarks, I have endeavoured to join together in an unnatural alliance things dissimilar and unconnected. I am not of this opinion. The subject has been long under consideration with me, and it has grown upon my mind as a sound conviction, that the method which I have here adopted of regarding it as a whole, in connexion with the details and individual parts, I have followed a consistent course. I am quite prepared to admit that there *may* be a great difference between an excrescence formed in the granulating process of a wound or ulcer, under peculiar circumstances, and an excrescence which, so far as we know, is spontaneous in its origin, and connected with a sound uninjured membrane; between a granular or villous state of a membrane, the result of irritants directly applied to the part, and a condition apparently similar, which we can trace to no such origin; and yet, even this difference may not be real, and the fact that we can, in any one case, discover a direct cause of the morbid process, may lead on further investigation to the discovery of the hidden causes of those which seem most clearly spontaneous. Everything must have a cause, and some impulse, communicated either from within or from without, must determine the production of every abnormal growth, of the urethra as much as of the eyelid, of the rectum as of the ear; and it is possible that by further careful observations made under this conviction, we may eventually arrive at information more positive than has yet been acquired on the origin of those growths that are now not referred to any but *suspected* or imaginary causes, or enabled to determine that such suspected causes, although at first they were imagined, without particular reason, are nevertheless real and true.

The series of morbid growths that have been here referred to, from the simple granulation to the distinct excrescence, possess, I believe, nothing in their structure which they do not derive from the texture upon which they grow: they are strictly what have been termed *analogous*, as distinguished from *heterologous* formations, and consequently do not come into the category of tumours: they are evidently common to all those more vascular and exposed portions of the mucous membranes which form the outlets of canals, or open upon the surface of the body, and are found also in certain other situations that have been cited; they possess an abundant supply of blood-vessels, and for the most part undoubtedly nervous fibrils also, although in this respect they probably differ much in degree: they are, in some instances, traceable to a local irritation; in others, not so: they vary in form, partly as they are produced upon a portion of membrane closely adherent to subjacent firmer textures, as the tarsal cartilages of the lid, or the bony parietes of the nose; or upon looser portions, as the semi-lunar fold, or other reflected portion of the conjunctiva, the lining membrane of the orifice of the urethra, etc. Again, their form is also much influenced by other circumstances of locality; thus a growth arising between the teeth will naturally, as has been described, bulge out on each side where the pressure is least; and for the same reason, a *growing* body in the urethra or meatus auditorius, must assume a more or less elongated form, as it is less interfered with in an outward direction than in any other. These are, however, not the only circumstances which influence form; some there are, I believe, which are quite unknown, and likely to remain so. What it is which causes most of these growths to bleed so much more rapidly when excised than the membrane itself from which they grow would do, if wounded as extensively, is another point requiring explanation; and yet, again, what it is which endows one of these growths with this property to an extent so much greater than is possessed by others which *appear* equally vascular. Yet the fact remains, and is only at present a subject for speculation. They all possess many common characteristics, and the minor ones in which they differ among themselves are not, I think, greater than in different examples of any other class of morbid growths.

3, Duchess-street, Portland Place, March 10, 1852.

VITAL STATISTICS OF THE ROYAL FREE HOSPITAL.

By THOMAS B. PEACOCK, M.D., formerly Physician to the Hospital;
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It has been my intention for some time to prepare a statistical report of the practice of the Royal Free Hospital, during the period that I was connected with that institution: circumstances, however, prevented my doing so when hospital statistics were attracting more particular attention, about twelve months ago, and I have been compelled to delay the work till the present time.

The value of hospital statistics mainly depends upon the facility which is afforded for comparison with the experience of other institu-

tions; and as similar facts can alone be made the subjects of comparison, it is essential that all such particulars as are likely to affect the general results should be stated. Thus, in calculating the rate of mortality which obtains in any hospital, the following particulars should be attended to:—

1. The report should extend over a considerable period of time; for when the observations embrace only a limited period, casual circumstances may materially modify the results. Thus, the rate of mortality at the Royal Free Hospital during the three years, embraced in the report, varied considerably, having been 7·15, 8·89, and 8·19 per cent., if the calculation be based upon the whole of the cases admitted. Attention to this point is of essential importance in reporting on the practice of hospitals receiving only a limited number of patients; but, in those of larger size, the rate of mortality may vary considerably during different years. I find that the mortality per cent. of the admissions into the Royal Infirmary of Edinburgh was, in 1846 and 47, 14·90; in 1847 and 48, 15·77; and in 1848 and 49, 13·90, or a difference of nearly 2 per cent. in two consecutive years.¹

2. The ages of the patients should be specified; for as the rate of mortality increases from adolescence to old age, and very rapidly at the later periods of life, the proportion of deaths in different hospitals will vary according to the average age of their patients. The difference between the mortality of persons in early and advanced life is well seen in the table of the ages of the medical patients at the Royal Free Hospital. Of 870 persons under 50 years of age, 84 died, or 9·65 per cent., while, of 99 persons, above 50 years of age, 19 died, or 19·1 per cent. In the reports of the Paris hospitals, the mortality of infants and young children is given separately from that of the adults; but the more accurate plan is to give tables of the number of cases at each decennial period of life, with the respective mortality.

3. The numbers of the sexes should also be specified; for, as the rate of mortality throughout adult life, and especially at the higher ages, is greater in males than in females, an institution receiving a larger proportion of the former will generally have a higher rate of mortality than one in which the number of females preponderates. In the Royal Free Hospital the mortality in males, in the three years, exceeded that in females by 1·95 per cent.; and the excess, with slight exception, was equally marked at all ages.

4. The rate of mortality in hospitals may be materially affected by the relation which the amount of accommodation provided, bears to the demands for hospital relief in the adjacent districts; by the mode in which applicants are admitted to the hospitals, and by the rules which regulate the selection of the cases to be received. Thus, in institutions situated in populous and unhealthy localities, and which possess only limited accommodations, the patients admitted can form only a small proportion of those who apply, and a selection must necessarily be made of the more severe cases, so that the rate of mortality will be higher than in hospitals under more favourable cir-

¹ See Appendix to the Reports of the Managers of the Royal Infirmary for those years.

cumstances, independently of any difference which may result from the more malignant character of the diseases treated. In some of our hospitals the patients require, to entitle them to admission, to present a letter of recommendation from a governor, and they can only be received on a fixed day of the week—rules which must operate to make the class of patients of a somewhat higher order, and the diseases under which they labour less acute. On the contrary, in institutions where these restrictions do not exist, and where patients are admitted at all times whenever they apply, provided their maladies are of a severe nature, the inmates will generally consist of the more destitute, and their diseases will be of a more acute character. At the Royal Free Hospital, no form of recommendation is required, and patients are admitted at all times; and from, considerable experience of the working of that institution, as well as of other hospitals in this country and on the continent, where the same plan is followed, I have no hesitation in expressing my opinion that the practise of admitting patients only on one day in the week, as adopted by the London hospitals in general,¹ detracts from the usefulness of those institutions, both in a philanthropic and scientific point of view. The poor find difficulty in obtaining admission at the commencement of the illness, when medical aid would be of most avail, and the cases under treatment are of a more chronic character and less adapted for the purposes of medical tuition. The rules which regulate the selection of the cases to be admitted may also modify the rate of mortality. In some hospitals, cases of confirmed organic disease are not received, or are only detained for a limited period, and a large source of mortality being thus cut off, the proportion of deaths in such institutions will be small. It would not be difficult to demonstrate the operation of these several circumstances, by a careful analysis of various published hospital reports; but their influence is sufficiently shown by the difference between the mortality of the hospitals of London, Edinburgh and Glasgow, and those of our provincial towns, the former having an average mortality of 8 to 10 or 12 per cent. and upwards, the latter rarely exceeding 6 or 7 per cent. It has also been shown that in some of the larger hospitals the rate of mortality has become higher as the accommodations have been extended, probably in consequence of a larger proportion of cases of organic disease having been received and retained till the fatal termination.

5. The respective numbers of medical and surgical cases treated in different hospitals will also modify their respective rates of mortality, as of the former a much larger proportion prove fatal than of the latter. It will be seen by the following tables that at the Royal Free Hospital, while the mortality of the medical cases treated averaged during the three years 10·61 per cent., that of the surgical cases was only 2·86 per cent.

6. In order to form a correct estimate of the rate of mortality in any hospital, the proportion of deaths should be calculated, not only on the cases admitted or treated in the establishment, but also upon

¹ Of course these remarks apply only to the general hospitals, not to those for the treatment of special forms of chronic disease.

the mean number of patients constantly resident. The latter must not only necessarily form the basis of all estimates of the expenditure for maintenance, medicine, etc., but also, by enabling us to calculate the mean period during which the cases are under treatment, it will furnish an index of their relative severity in different institutions. Two hospitals may admit, during a given period, nearly the same number of patients, and yet may have very different proportions of deaths. On investigation, however, it may be found that in the institution which has the low rate of mortality the patients reside, on the average, only for a few days; while, in the other, their period of residence may be extended to three weeks or a month: it may therefore justly be inferred that the cases under treatment in the former are of a much slighter character than those received into the latter. Again, two institutions may receive the same number of cases and these may be of a precisely similar character, and yet the rate of mortality in the one may greatly exceed that of the other, owing to the cases of fatal organic disease being discharged after a residence of only a few days, in the one institution, and being kept till they terminate in death in the other. The cause of the difference in the rates of mortality of such institutions would be at once explained when the average duration of residence in the two institutions was compared. In some of the reports of hospitals which have been published, the rate of mortality has been calculated upon the number of beds which they contain. This method is, however, very fallacious, for in all hospitals the number of beds constantly occupied, is, for obvious reasons, considerably less than the number provided; and the proportion which the number occupied bears to the total number, varies considerably in different institutions. Thus, in St. Thomas's Hospital, which contains 498 beds, the number constantly occupied during the years 1847 and 1848 was only 409; in the Chester Infirmary, of 100 beds, 73 only were, on the average, occupied during the years 1848 and 1849; and at the Royal Free Hospital, which contains 143 beds, in consequence of the want of funds, only 36 were in constant occupation during the last two years that I was connected with that institution. It is evident, therefore, that the mean number of persons resident should always be stated in hospital reports.

The following table contains an abstract of the experience of the Royal Free Hospital, from the 25th of March 1846, to the 25th of March 1849, this period having been selected as affording a fair average of the practice of the institution. Had the report included the whole period of my connexion with the hospital, which extended to October 1849, the results would have been materially modified, by the large number of deaths from cholera.

The table includes a statement of the total number of cases admitted, and the proportion of deaths, as well as of the number which only can fairly be regarded as under treatment; the results may thus be compared with those obtained in other hospitals, the reports of some of which include all the deaths taking place in the institution; while, in others, the cases proving fatal within twenty-four hours after their admission, are excluded from calculation.

TABLE I. GENERAL STATISTICS OF THE ROYAL FREE HOSPITAL.

	1846-47.	1847-48.	1848-49.	Total.
Cases admitted	699	686	598	1983
Mortality per cent.	7.15	8.89	8.19	7.96
Died shortly after admiss. .	10	6	10	26
Cases treated	689	680	588	1957
Mortality per cent.	5.8	7.79	6.63	6.74

MEDICAL CASES.	Died	SURGICAL CASES.	Died
Cases admitted	995	988	38
Mortality per cent.	12.05	3.8	
Died shortly after admiss. 16	16	10	10
Cases treated	979	978	28
Mortality per cent.	10.61	2.86	

MALES.	Died	FEMALES.	Died
Cases admitted	1003	980	63
Mortality per cent.	9.47	6.4	
Died shortly after admiss. 19	19	7	7
Cases treated	984	973	56
Mortality per cent.	7.72	5.75	

Mean number of patients resident	35.91
Mean period of residence of each patient	20.4 days.
Annual mortality of each bed	1.5

The mortality at the Royal Free Hospital will be seen from the above table to correspond with tolerable closeness to that which obtains at most of the other London hospitals, as given in the valuable report of Dr. Webster on the mortality of those institutions for the six months terminating March 1851.² During this period, the highest mortality occurred at St. George's and King's College Hospitals, where the rate was respectively 8.6 and 8.96 per cent.; and the lowest, at the Middlesex and Westminster, where it was 6.07 and 6.57 per cent. In the Royal Free Hospital, the mortality during the whole of the three years amounted to 6.74 per cent. of the cases under treatment, and 7.96 per cent. of the total number admitted. When the medical cases only are compared, it appears from Dr. Webster's observations, that the highest rate of mortality occurred at the Charing Cross and St. Bartholomew's Hospitals, or 14.52 and 13.58 per cent.; and the lowest at the Middlesex and Westminster Hospitals, or 8.13 and 8.73 per cent. At the Royal Free Hospital, during the period here analysed, the medical cases proved fatal in the proportion of 12.05 per cent., if the whole of the cases be calculated, and 10.61 per cent. if those under treatment only be estimated; the former rate being higher than that of any of the other London Hospitals, except the two first mentioned.

In the surgical cases, the mortality was, according to Dr. Webster's tables, highest at St. George's and St. Bartholomew's, and least in the Westminster and Charing Cross Hospitals, in the former being 5.73 and 5.01, and in the latter 3.45 and 3.61 per cent. In the Royal Free

¹ The averages here given refer to the two last years, from 25th of March 1847 to the 25th of March 1849. During a portion of the first year, no report of the number of patients resident was kept; but, probably, the number maintained a similar average to the two last years, though during the first six months it was somewhat greater, and during the last smaller, than in the latter period.

² LONDON JOURNAL OF MEDICINE, June 1851.

Hospital, the mortality in the surgical cases was 3·8 of the whole of those admitted, and 2·86 of those under treatment, the latter rate being lower than that of any of the other hospitals, and the former being lower than any except the two stated.

The second table given by Dr. Webster, affords the means of comparison between the respective rates of mortality in the two sexes for six of the London Hospitals, including the Free Hospital. From this it will be seen, that for the whole series, the mortality is less in males than in females, or 6·78 and 6·90 per cent. respectively; or, if the Free Hospital be excluded, 6·78 in males and 7·09 in females. In the Royal Free and Middlesex Hospitals, however, the mortality among males during the period specified, was much greater than among females. At the Royal Free Hospital, during the whole of three years included in the present report, the mortality in males exceeded that in females, being, on the whole admissions 9·47 per cent. in males, and 6·4 per cent. in females; and in the cases under treatment 7·72 in males and 5·75 in females; and the excess in the mortality among the males obtained equally during each of the three years.

The comparison here instituted between the observations collected in the paper referred to, and my own statements of the practice of the Royal Free Hospital, is, however, very defective, as, not only are the two periods different, but the time embraced in Dr. Webster's report is too limited to be regarded as presenting an average view of the mortality in the London Hospitals; I have, therefore, compiled the following table, showing the movement of patients in the Chester Infirmary, St. Thomas's Hospital, and the Royal Infirmary of Edinburgh,¹ from data with which I have recently been furnished from the respective establishments. I have also added similar particulars of two of the Parisian hospitals, though the information to which I have access from those institutions, is of much older date.

TABLE II. GENERAL STATISTICS OF VARIOUS HOSPITALS.

	Cases admitted annually.	Deaths.	Mean number resident.	Mortality per cent. of cases admitted.	Mortality per cent. of 100 beds constantly occupied.	Mean period of residence.
Chester Infirmary ²	728	45	73 ⁸	6·1	61·6	36 days ⁹
Royal Free Hospital ³ ..	642	54	36	7·96	150·	20 ..
St. Thomas' Hospital ⁴	3898	279	409	7·17	68·2	38 ..
Royal Infirmary, Edin. ⁵	7224	1119	516	15·4	216·8	26 ..
La Charité, Paris ⁶	7972	807	453	10·1	178·1	22 ..
Hôtel Dieu ⁷	16762	1732	1010	10·3	171·5	22 ..

From this table, it will be seen that the rate of mortality at the Royal Free Hospital exceeded that at the Chester Infirmary and St.

¹ For the information in reference to the Chester Infirmary, I am indebted to my friend Dr. Thomas Davies, of Chester. For the Reports of the Royal Infirmary of Edinburgh, to Dr. W. T. Gairdner.

² Mean of two years, from 25th of March 1847 to 25th of March 1849.

³ Mean of two years, from 25th of March 1847 to same date 1849.

⁴ Mean of two years, 1847 and 1848.

⁵ Mean of two years, from Oct. 1846 to Oct. 1848.

⁶ & ⁷ For year 1840. Comptes Rendues des Hôpitaux, etc.

⁸ & ⁹ I have given the data in these columns in round numbers.

Thomas's Hospital, but was less than that of the Paris Hospitals, and still less than that of the Royal Infirmary of Edinburgh. Indeed, the mortality of the latter institution, upon the total number of cases admitted, is nearly double that of the Royal Free Hospital; and this remarkable difference seems to be mainly due to the following circumstances:—

1. The proportion of females was much larger in the Royal Free Hospital than in the Royal Infirmary of Edinburgh, being as 97·7 to 100 in the former institution, and as 57·9 to 100 in the latter. The rates of mortality in females, in both institutions, is much lower than in males, or, 6·4 to 9·47 per cent. in the Royal Free Hospital, and 12·8 to 16·8 in the Royal Infirmary of Edinburgh; it is evident, therefore, that the total mortality of the former institution must, on this account, be much lower than that of the latter.

2. The proportion of surgical to medical cases is much larger in the Free Hospital than in the Royal Infirmary, or as 97·7 to 100 in the one institution, and as 37·6 to 100 in the other. The mortality in both hospitals is much less in the surgical than in the medical cases, the rate being, as before shown, in the former 3·8 and 12·05 per cent., while in the latter, the mortality in the surgical cases is 6·3, and that of the medical cases 17·3 per cent. The rate of mortality of the Free Hospital will thus be proportionately less than that of the Edinburgh Infirmary.

3. The proportion of diseases having a high rate mortality is much greater in the Royal Infirmary than in the Free Hospital; and it would probably also be found that the average age of the patients in the former institution, exceeds that of the latter. The proportion of cases of fatal organic disease which are treated to their termination, is not materially different in the two hospitals.

In comparing the mortality at the different institutions shown in the table, as calculated upon the number of beds constantly occupied, it will be seen that the rate is lowest at the Chester Infirmary, and not materially greater at St. Thomas's Hospital. At the Royal Free Hospital the rate is more than double that of the latter institution; and at the Hôtel Dieu, La Charité, and the Royal Infirmary, it is still higher. The remarkable contrast thus presented is chiefly due to the different periods during which the patients are retained in the various hospitals. Thus, comparing St. Thomas's and the Free Hospitals, it will be seen that at the former institution the patients reside, on an average, 38·3 days; in the latter, only 20·4: consequently, every bed constantly occupied had 9·5 patients in the former institution, and 17·8 in the latter. And as the rate of mortality of the two institutions was 1 in 13·9 and 1 in 11·8 respectively, the actual mortality of each bed would be in St. Thomas's ·68, at the Royal Free Hospital 1·5.

Calculations of this kind are, however, only approximative: to arrive at results strictly accurate, the comparisons should be instituted between the several classes of disease under treatment. The following tables have therefore been compiled to show the statistics of the medical cases only. The first gives the sex of the patients with the respective mortality at decennial periods of life; the second presents a statement of the cases treated in the two sexes, with their results, classed under the several forms of disease.

TABLE III.

Showing the Age and Sex of the Medical Patients treated in the Royal Free Hospital, with the rate of Mortality at the several periods of life.

Ages.	Total cases.	Total died.	Mortality per cent.		Male.	Died.	Mortality per cent.		Fem.	Died.	Mortality per cent.																												
Under 5	8	4	..		2	1	..		6	3																													
5 to 10	7		4		3	..																													
10 to 15	24	3	12.4	} 7.37	14	2	14.2	} 9.0	10	1	10.0	} 5.6																											
15 to 20	193	13	6.7		97	8	8.2		96	5	5.2																												
20 to 30	336	26	7.7		154	11	7.1		182	15	8.2																												
30 to 40	179	24	13.4	} 10.03	109	16	14.6	} 11.62	70	8	11.4	} 8.1																											
40 to 50	123	14	11.3		81	13	16.		42	1	2.3																												
50 to 60	58	13	22.4		39	8	20.5		19	5	26.3																												
60 to 70	33	5	15.1	} 19.19	19	1	5.2	} 15.71	14	4	28.5	} 25.																											
70 to 80	8	1	12.5		5	1	20.0		3	..																													
Not stated	10	1	..		5	1	..		5	..																													
Total	979	104	10.61		529	62	11.71		450	42	9.33																												
<table><tr><th colspan="3">Total.</th><th colspan="3">Males.</th><th colspan="3">Females.</th></tr><tr><th>Cases treated.</th><th>At death.</th><th></th><th>Cases treated.</th><th>At death.</th><th></th><th>Cases treated.</th><th>At death.</th><th></th></tr><tr><td>Mean age .. 29.84</td><td>34.5</td><td></td><td>31.12</td><td>35.3</td><td></td><td>28.20</td><td>33.3</td><td></td></tr></table>													Total.			Males.			Females.			Cases treated.	At death.		Cases treated.	At death.		Cases treated.	At death.		Mean age .. 29.84	34.5		31.12	35.3		28.20	33.3	
Total.			Males.			Females.																																	
Cases treated.	At death.		Cases treated.	At death.		Cases treated.	At death.																																
Mean age .. 29.84	34.5		31.12	35.3		28.20	33.3																																

The above table shows considerable irregularity as regards the rate of mortality at the various decennial periods, in consequence of the small number of cases treated, especially at the earlier ages. When, however, the calculation is based upon the larger number of persons included between the ages of 10 and 20, 20 and 50, and above 50, there will be seen to be a steady increase in the rate of mortality in the whole of the cases, of from 7.37 to 10.03, and 19.19, and in males from 9.0 to 11.62, and 15.71; in females, from 5.6 to 8.1, and 25 per cent. The mortality being thus lower in females than in males, at all ages except the last. In females, the mortality, as calculated upon the population at large, is considerably less than in males, and especially so at the more advanced ages; so that the opposite results at the latter period, thus afforded by the experience of the Royal Free Hospital, must be regarded as an exception, due to the smallness of the numbers calculated.

TABLE IV.

Medical Cases treated in the Royal Free Hospital, arranged according to the several Diseases.

	Total.	Male.	Fem.	Cured.		Relieved.		Died.		Mortality per cent.	
				Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.
ZYMOTIC DISEASES.											
Variola	1	..	1	..	1	..	..	..	..	..	..
Rubeola	2	1	1	..	1	..	..	1	..	..	..
Scarlatina	5	3	2	2	2	..	..	1 ¹	..	..	..
Pertussis, complicated with Pneumonia ..	1	1	..	1	..	..	..	..	..	..	..
Diarrhœa	36	19	17	17	17	1	..	1	..	..	..
Dysentery	20	11	9	10	8	..	..	1	1	9.09	11.1
Cholera Anglica.....	10	6	4	6	4	..	..	..	..	..	..
Cholera Algida	125	63	62	34	37	..	..	29	25	46.	40.32

¹ Within four hours of admission.

	Total.	M.	F.	Cured.		Relieved.		Died.		Mortality per cent.	
				M.	F.	M.	F.	M.	F.	M.	F.
ZYMOTIC DIS. <i>contin.</i>											
Purpura & Scorbutus	5	4	1	2	1	..	..	2	..	..	..
Intermittent Fever ..	44	24	20	23	20	1	..	..	..	..	..
Continued Fever ¹	269	178	91	163	85	..	..	15	6	8.4	6.5
Rheumatic Fever	29	18	11	18	9	..	..	..	2	..	..
Erysipelas	23	18	5	15	5	..	..	3	..	..	..
	570	346	224					53	34	15.3	15.1
DISEASES OF NERVOUS SYSTEM.											
Cephalalgia	8	4	4	4	2	..	2	..	..
Cephalitis	5	3	2	1	2	..	..	2	..		
Disease of Brain, re- sulting from disease of the internal ear..	4	1	3	..	..	..	..	1	3		
Apoplexy.....	7	4	3	..	..	1	..	3	3		
Hemiplegia	4	3	1	..	..	3	1	..	..
Paraplegia	3	1	2	1	..	..	1	..	1		
Partial Paralysis	2	1	1	1	1	..	..	..	..
Delirium Tremens....	2	1	1	1	1	..	..	..	..
Chorea	3	2	1	1	1	..	..	1	..		
Hysteria	3	..	3	..	3	..	..	..	..
Epilepsy	18	5	13	..	..	5	13	..	..
Idiopathic Tetanus ..	2	2	..	1	..	..	..	1	..		
Mania	4	..	4	..	1	..	3 ⁴	..	..
Dementia	1	1	..	..	..	1 ³	..	..	..
Neuralgia	2	..	2	..	1	..	1	..	..
	68	28	40					8	7	28.5	17.5
DISEASES OF THE VAS- CULAR SYSTEM.											
Congenital Malfomat.	2	2	..	..	..	..	..	2	..		
Disease of the Heart..	19	11	8	..	..	5 ⁵	4 ⁷	6 ⁸	4		
Aneurism of the Aorta	3	2	1	..	..	1 ⁶	..	1 ⁹	1		
	24	15	9					6	5	40.	55.5
DISEASES OF THE RES- PIRATORY ORGANS.											
Chronic Laryngitis ..	2	..	2	..	..	..	2	..	..	..	..
Influenza,—Acute and Subacute Bronchitis	76	41	35	31	26	7	4	3	5	7.3	16.1
Chronic Bronchitis, &c.	21	13	8	..	..	12	5	1	3	7.6	37.5
Pleurisy and Empyema	14	10	4	5	2	3 ¹⁰	2 ¹¹	2	..	20.0	
Pneumonia	26	23	3	20	2	..	..	3	1	13.0	33.3
Hæmoptysis	5	3	2	3	2	..	..	..	..	..	..
Pneumo-thorax, from injury	1	1	..	1	..	..	..	..	..	..	..
Phthisis	61	39	22	..	..	27	10	12 ¹²	12	..	..
Affection of Chest (kind not stated)	2	..	2	..	2	..	..	..	..	..	..
	208	130	78					21	21	16.1	26.9

¹ Including typhus, typhoid, relapsing, and ephemeral.² Irregular.³ Improper.⁴ Improper.⁵ One died as an out-patient; a second was discharged relieved, and was again admitted two years after, and died.⁶ Died as out-patients.⁷ Two males died the day after admission.⁸ Died a few days after in St. Bartholomew's⁹ Died day after admission.¹⁰ One discharged for irregularity.¹¹ One discharged for irregularity.¹² One died the day after admission.

	Total.	M.	F.	Cured.		Relieved.		Died.		Mortality per cent.	
				M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE DIGESTIVE ORGANS.											
Stomatitis	2	..	2	..	2	..	..	..	..
Parotitis	2	..	2	..	2	..	..	..	..
Cynanche Maligna . .	5	1	4	1	4	..	..	..	..
Tonsillitis	2	..	2	..	2	..	..	..	..
Dyspepsia	7	3	4	3	4	..	..	..	..
Gastrodynia	13	5	8	4	8	1	..	..	..
Constipation	5	1	4	1	4	..	..	..	..
Colica Pictorum . . .	3	3	..	3	..	..	..	..	..
Enteritis	9	3	6	3	5	..	..	..	1		
Peritonitis	6	2	4	2	3	..	..	..	1		
Hernia and Internal Strangulation . . .	2	1	1	..	..	..	1	1 ¹	..		
Organic Disease of Stomach	1	1	..	..	..	1	..	..	..
Cancer of sigmoid flexure of Colon	1	..	1	..	..	..	..	..	1		
Hæmatemesis	2	..	2	..	1	..	1	..	..
Icterus	3	1	2	1	2	..	..	..	..
Subacute Hepatitis . .	3	1	2	1	2	..	..	..	..
Abscess in Accephalocyst of Liver	1	..	1	..	..	..	..	..	1		
Organic Dis ^e . of Liver	10	9	1	..	..	7	1	2	..		
Ascites & Anasarca, not otherwise reported	2	..	2	..	1	..	1	..	..
	79	31	48					3	4	9.6	8.3
DISEASES OF URINARY ORGANS.											
Bright's Disease	14	11	3	..	..	6	2	5 ²	1		
Diabetes	1	1	..	..	..	1	..	..	..
	15	12	3					5	1	41.6	33.3
DISEASES OF UTERUS, ETC.											
Amenorrhœa and Chlorosis	9	..	9	..	5	..	4	..	..
Menorrhagia	3	..	3	..	3	..	..	..	..
Dysmenorrhœa	1	..	1	..	1	..	..	..	..
Abortion	1	..	1	..	1	..	..	..	..
Metritis	1	..	1	..	1	..	..	..	..
Prolapsus Uteri	3	..	3	..	..	..	3 ³	..	..
Vesico-vaginal Fistula	1	..	1	..	..	..	1 ⁴	..	..
Organic Disease of Uterus	9	..	9	..	..	..	7	..	2		
	28		28						2		7.1
DISEASES OF LIGAMEN-TOUS AND OSSEOUS SYSTEMS.											
Rheumatism — Sub-acute and Chronic . .	76	46	30	33	24	13	6				
Disease of Vertebrae . .	2	2	..	..	..	2	..				
Deformity of Spine . .	1	1	..	..	1	1	..				
	79	49	30								

¹ Died immediately after admission.² Died on day of admission.³ Incurable.⁴ Incurable.

	Total.	M.	F.	Cured.		Relieved.		Died.		Mortality per cent.	
				M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF INTEGUMENTARY SYSTEM.											
Erythema nodosum ..	3		3		3						
Urticaria	3		3		1		2				
Paronychia after Fever	1		1		1						
	7		7		7						
MISCELLANEOUS.											
Secondary Syphilis ..	7	3	4	1	2	2	2				
Syncope	2	2	..	2	..	..	..	
Poisoning by Opium..	2	..	2	..	2	..	..		
„ Belladonna berries	1	1	..	1	..	..	..	
„ Oxalic acid	1	..	1	..	1	..	..		
„ Acetate of lead ..	2	..	2	..	2	..	..		
„ Chloride of antim.	1	1	..	1	..	..	..	
Asthenia & Destitution	16	6	10	..	..	6	10				
	32	13	19								
Discharged as improper immediately after admission											
	12	7	5								
Died before being seen	6	4	2								

General Abstract,¹ showing the number of persons treated for different forms of Diseases, with the Mortality in each Sex.

	Total.	Male.	Female.	Died.		Mortal. per cent.	
				M.	F.	M.	F.
Zymotic Diseases,							
Including Algide Cholera	570	346	224	53	34	15·3	15·1
Excluding Cholera	445	283	162	24	9	8·4	5·5
Diseases of Nervous System	68	28	40	8	7	28·5	17·5
.... of Vascular System ..	24	15	9	6	5	40·0	55·5
.... of Respiratory Organs	208	130	78	21	21	16·1	26·9
.... of Digestive Organs..	79	31	48	3	4	9·6	8·3
.... of Urinary Organs ..	15	12	3	5	1	41·6	33·3
.... of Uterus	28	..	28	..	2	..	7·1
.... of Ligamentous and Osseous System..	79	49	30	..	..	..	..
.... of Integumentary Syst.	7	..	7	..	..	..	..
Miscellaneous	32	13	19	..	..	..	..

The statistical tables, published each year by the managers of the Royal Infirmary at Edinburgh, afford the means of comparing the practice of the Royal Free Hospital with that of the Royal Infirmary. I have therefore compiled the two following tables, which show the relative number of persons labouring under the various forms of disease in the two institutions, with the proportion per cent., and the relative mortality of each class.

¹ The total number of cases included in this table does not correspond with that in the general table, as the period of time which it embraces is six months longer, and terminates in October 1849.

TABLES V AND VI.

	ROYAL INFIRMARY OF EDINBURGH. ¹		ROYAL FREE HOSPITAL.	
	Total cases.	Proportion per cent.	Total cases.	Proportion per cent.
Fevers ²	7446		1003	
Diseases of Nervous System	4819	64·71	313	31·20
.... of Respiratory Organs ..	171	2·29	68	6·77
.... of Circulatory Organs....	440	5·90	209	20·83
.... of Digestive Organs ³	75	1·007	24	2·39
.... of Urinary Organs ⁴	223	2·99	145	14·45
.... of Integumentary System ⁵	92	1·23	15	1·49
	228	3·06	38	3·78

	ROYAL INFIRMARY.		ROYAL FREE HOSP.	
	Mortality Males.	per cent. Females.	Mortality Males.	per cent. Females.
Fevers	16·12	13·09	8·4	6·5
Diseases of Nervous System	29·12	8·2	28·5	17·5
.... Circulatory Organs	25·45	60·00	40·	4·44
.... Respiratory Organs....	32·08	26·53	16·1	26·9
.... Digestive Organs.....	19·58	16·25	7·4	6·4
.... Urinary Organs	29·11	38·46	41·6	33·3
.... Integumentary System	12·03	13·33	22·7	..

The above tables show that the chief difference between these two institutions consists in the much larger proportion which the class of fevers bears to the whole of the cases under treatment in the Royal Infirmary in Edinburgh than in the Royal Free Hospital, and in the very much higher rate of mortality of these diseases in the former institution. Indeed, both the proportion which these cases bear to the whole of those under treatment, and their rate of mortality, is in the Royal Infirmary double that of the Free Hospital. Were the means of comparison accessible, I believe it would be found that the febrile affections do not bear a larger proportion to the whole of the cases under treatment in the other London and in the Paris hospitals, than in the Royal Free Hospital, and that the rate of mortality of these diseases is generally not higher; consequently, from this cause, the mortality of the latter institutions must be much less than that of the Royal Infirmary.

These considerations, together with the smaller proportion of female and of surgical cases in the Royal Infirmary, as before shewn, go far to explain the very much higher rate of mortality in that institution than in the various London and Paris hospitals. On analysing the statistical tables of the Royal Infirmary, it will also be seen that by

¹ From the Appendix to the Report of the Managers, Eighth Series, from October 1, 1847, to October 1, 1848.

² Including under this head typhus, typhoid, intermittent, and low remittent or relapsing fevers, with febrile affections of no specific character, commonly termed ephemera or febricula.

³ Exclusive of cholera epidemica.

⁴ Exclusive of diseases of the bladder, urethra, etc.

⁵ Including the eruptive fevers.

far the largest proportion of cases of fever there treated are cases of typhus. Thus, of the 4,819 cases treated during 1848, 4,694 were cases of typhus; 101 cases of febricula; 3 of dothineritis, or typhoid; and 21 of intermittent fever; while of the 313 cases of fever treated in the Royal Free Hospital, during the three years here reported upon, 44 were cases of intermittent fever, a very large proportion were cases of typhoid, remittent or relapsing, or ephemeral fever, and but very few cases of true typhus occurred. At present, however, I am not able to give the proportions of these several forms of disease; though, should leisure permit, I shall hope to do so hereafter.

THE USE OF THE THYMUS GLAND:

AN ORIGINAL THEORY, WITH EXPLANATORY REMARKS.

By HENRY G. WRIGHT, M.D.

THEORY.

I. At the period of evolution of the human fœtus, the upper portion of the body is developed to a very considerably greater extent than the lower, as, during intra-uterine life, the former alone is required for the purposes of existence.

II. After birth, these *hypo*-developed portions of the frame (namely, lower extremities) take on a rapid genesis, to bring them to the comparative standard required for the fulfilment of their presently-to-be-allotted duties; this period of increase, during which they grow with greater rapidity than the rest of the body, extending over about the first two years of mundane life.

III. The source of production of added portions of the human frame, from its earliest intra-uterine cellular genesis, is corpuscular: a strong hypothesis hence arises, that the corpuscular portion of that fluid which supplies animal pabulum for conversion,—videlicet, the blood,—is the source of elaboration into new definite existence.

IV. The increase of the lower extremities, above referred to, goes on with greater rapidity than that of any other considerable portion of the body, in a state of health, at any one period of life; hence the amount of convertible matter required must be proportionally large, whereas no organ has yet been demonstrated as specially endowed with the power of supplying this large required amount of material. The thymus gland, I would suggest, is the organ destined for the supply of pabulum (namely, corpuscles), in order to compensate this large demand.

For the more systematic arrangement of the numerous considerations which the crude theory embraced in the foregoing paragraphs admits of, I will embody, under the following heads, those observations which appear more directly to bear upon, and elucidate, the view above proposed.

1. The structural anatomy of the thymus gland.
2. Its localisation.
3. Its contents and their destination.
4. Its comparative anatomy.
5. Its duration, growth, and wasting.

1 THE STRUCTURAL ANATOMY OF THE THYMUS GLAND has been very variously described by different authors; partly, perhaps, owing to the special views which each laboured to support, partly to the fragile and pulpy nature of the structure, and the arrangement of its parts in the human subject, often baffling the most careful dissectors. Most, however, of the opinions held by more modern observers, would seem to be embodied in the statement, that it is intrinsically constituted of a highly organised germinal tissue, exceedingly vascular, and furnished with a most complete capillary network (Simon), with cerebro-spinal and sympathetic nervous plexus (Pappenheim), and with numerous lymphatics, which communicate "*partim cum mammariis, partim cum iis qui ex pulmone proveniunt*" (Mascagni); these, however, Sir A. Cooper definitely states to terminate, in the calf, in absorbents which form two large lymphatic vessels on the spinal surface of the gland, and which empty themselves into the jugular vein on either side.

This germinal tissue is arranged in lobes divisible into lobules and vesicles, united, and, as it were, strung together by a delicate ligamentous areolar tissue; these communicating each with a common central reservoir, and the larger lobules having a further intercommunication. Such is the mode of its disposal, as related by Sir A. Cooper: more recent anatomists, however, dissent from the statement, that a common reservoir of the size figured in his monograph, exists. In dissections of the gland, I have never been able to see it; the nearest approach to it I have witnessed being a receptacle apparently common to a projecting lobule of vesicles, which, however, could not be traced further than the base of such lobule. I will defer, for a little, any reference to the microscopical arrangement of the ultimate vesicles and their limitary membranes, until the localization of the thymus, and its bearing on the subject of the gland's special use, has been briefly considered.

2. THE LOCALISATION OF THE THYMUS GLAND. The thymus gland obtains, during foetal life, a position which affords it protection from almost every conceivable interference with its development, or the due performance of its function: protected in front by the sternum and clavicle,—the sternal end of which (namely, that which lies over the entrance of vessels, etc., into the gland) has a centre of ossific deposit before any other bone,—and guarded behind by the dense fascia so ably described by Sir A. Cooper, it is, on either side, and below, in such intimate relation with the heart, large vessels, and respiratory apparatus, that any displacement or injury of its substance would, inevitably, by implicating them, interfere seriously with the frail tenure of infantile life.

Here, then, would seem the most fitting place for any suggestions explanatory of the reason why such a site is occupied by the thymus. In offering them, I must somewhat anticipate the next heading of my subject, by referring cursorily to the destination of the products of its vitality. I have above stated my belief that these, when mixed up

with the general circulating fluid, are destined for supplying the diminution which the large amount of pabulum, subtracted by the rapidly increasing lower extremities, gives rise to. Such an hypothesis being admitted, the question naturally arises, why is the organ not situated near the parts for whose nutrition it is destined? In response to such a query, I would argue that, as the mass of blood has its vitality diminished, so to the mass of blood must the compensating power be applied. And where could this be so directly effected as in the locality where the gland is situate? its contents becoming mixed up with the general circulation, at nearly the same spot which, in after life, receives the educts of digestion, and being in a similar manner churned up, as it were, with the blood in the right cavity of the heart.

Moreover, the situation of the thymus, immediately between the two pleuræ, must in some measure bring it within the mechanical agency of the lungs expanded by inspiration, especially at the first full gasp of the new-born child. This is rendered probable by the large size of the gland in the full-grown fœtus before respiration has occurred,—as shown by the following comparisons, calculated from the tables of Hangsted:—

	Age.	Weight.	Weight of thymus.	Relative proportion to body.
Fœtus....	7 months	3½lbs.	33 grains	As 1 to 727½
"	9 "	9 "	240 "	" " 288
Child	4 weeks	6 "	120 "	" " 384

3. OF THE CONTENTS OF THE THYMUS, AND THEIR DESTINATION.

On the outer surface of the germinal membrane, of which the gland is essentially composed, lie the capillary vessels; from the inner surface are secreted the contents of its cavity. In the knowledge of this fact is embodied a great step onwards in physiology, for of such arrangement is the structure of all secreting organs composed, each after its kind. The wall of the liver cell, and the limitary membrane of the thymus gland, are, I take it, but modifications of the same thing, the screen, as it were, on whose surface, and through whose medium, the effects of the phantasmagoria of nutrition are produced; we can move the lantern, we can trim the lamp, but of the power that shifts the slides and modifies the image thrown upon and through the screen, we know nought further than that the secreted products are individualised each by its special characters, this seeming to be effected by an inherent metabolic power in the new-formed cell germ, distinct from that of mere reproduction, *ad infinitum*, of its own physical image. But, of the "primum mobile", by whose influence such changes are wrought, nothing definite is known; the only suggestion which has yet been ventured on, of the agency by which they are brought about, being their reference to that physiological myth "vital affinity"; one of those "provisional hypotheses for which the occasion will cease as science advances" (Graham). Thus the heart of the embryo, whilst yet a mass of cells, connected by amorphous tissue matter, is seen to pulsate; yet no one can imagine that the power which regulates its movement is not identical with that which animates its structure when fully elaborated.

The secreting structure of the thymus gland is composed of an infinitely minute membrane, forming the periphery of numerous vesicles, and the proper seat of secretion of their contents. The mode of

its arrangement for this purpose, seems to me similar to that which obtains, in the ordinary salivary glands; the membrane dipping down between the ultimate vesicles, and the loops thus formed being, in all probability, (although I have not seen such arrangement,) occupied by the minute ramifications of the vessels from which secretion is effected. I have been led to the belief that such is the mode of arrangement, from observing that, in a thin slice of the gland's substance, after maceration for some days, a "smoothing out", as it were, of the originally well-defined polygonal vesicles is noticeable, their dark and well-defined outlines gradually fining off into a continuous and smooth membrane of excessively delicate texture.

With a glass of high power there may be seen spread over the inner surface of the limitary membrane of each vesicle a vast number of round or polygonal bodies; these I believe to be the earliest form of the cells found to exist in the fluid contained in the thymus, thrown off in a manner analogous to that in which other secretions, as epithelium, are produced—the occasional absence of these sometimes noticed at a part of the surface of the membrane, and its consequently bright appearance at the denuded spot, favouring this opinion.

The amount of the contents of the thymus varies greatly, according to the state of the systemic nutrition, and hence the small quantity found on *post mortem* examinations of the gland in the infant. They consist of an "opaque creamy fluid", exuding when the cut surface of the gland is compressed, and seen on the edge of a section of its substance. This fluid is a protein compound; its small quantity, however, renders minute chemical analysis difficult: in cases where it has been undertaken, the glandular substance and contents were examined *en masse*.

On microscopic examination of this fluid, corpuscles, with a granular aspect, varying in size from $\frac{1}{2500}$ to $\frac{1}{5000}$ of an inch, are visible, on which depends the milky appearance of the fluid; these greatly resemble, and, in fact, are stated by Mr. Gulliver to be identical with, the globules of the lymphatic glands in structure, magnitude, and chemical properties, differing, however, slightly, in being of somewhat smaller size; and in them I have in many cases noticed the nuclei, rendered visible by acetic acid, to be situate very near the periphery of the cell. In conformity with these facts, the contents of the thymus may be defined as consisting essentially of

a. Highly developed cells, fitted in every respect for elaboration into the true coloured corpuscles of the blood.

The tracing of the limitary membrane is so far unsatisfactory, that at no point can any mode of egress for its contents be demonstrated to exist: it may be defined as being

β. A cell-secreting membrane, which is peripheral to one or more closed sacs, into which its products are poured.

On these two definitions (*a* and *β*) two adverse opinions are evidently based of the mode in which the products formed in the gland are borne into the general circulation. On the one hand, the high organisation of its corpuscular contents would seem to indicate that such development was not needlessly undertaken, and that their destination was of more extended range than the mere breaking of them up as soon as fully elaborated, which, in the other view, is the change occurring;

this latter opinion being based on the absence of all traces of any proper excretory duct.

Whichever be the orthodox doctrine, it does not at all bear upon the theory advanced, that the products of the secretion of the gland serve a special purpose in nutrition; and, as the opinion I have been led to entertain on this point requires observation, (which it is at present out of my power to undertake), I will at once suppose the contents of the gland passed on into the general circulation. In the fœtus, the blood from which they are received having been previously purified in the placenta, they are at once fitted for their purpose, which, at that period of existence, is most probably (in obedience to the laws of development) similar to that fulfilled by them in the lower animals, and which will be hereafter commented on; when, on the other hand, respiration has been established, these products are submitted to the agency of the lungs, in the manner and for the purpose before mentioned.

It would appear, from the researches of Mr. Hutchinson, that the thymus is not the only organ whose use and adaptation may be supposed to be modified according to the usage of development of the lower extremities; for we learn from his observations that the vital capacity of the lungs is proportioned in a remarkable degree, not to the development of the respiratory apparatus itself, or other contained organ of the body, but to the height of the frame, which height is chiefly, if not entirely, regulated by the length of the lower limbs. Nor does it seem at all an unwarrantable speculation that some relation may exist in the thorax between the lungs and the thymus gland; far different, however, from the view entertained by Putens, Meckel, Arnold, and others, that the latter organ was vicarious to the former. The observations of Hangsted and Becker prove that the greatest activity of the gland is *not* during the period of quiescence of the lungs; and hence we may suppose, in accordance with the theory I have before stated, that the rapid growth of the lower extremities exhausting the nutrient material of the blood, an increased secretion from the thymus is determined, the vivifying agency of the lungs to mould this secretion to a condition fitted for nutrition is more energetically called into action, and action, we know, determines growth.

4. THE COMPARATIVE ANATOMY OF THE THYMUS. The condition of the gland and its relative anatomy in various animals has been made the subject of research by Tiedemann, Meckel, Hangsted, and of special inquiry by Simon. To trace the different and often conflicting opinions by them expressed, would far exceed the limits of this paper. As far as relates, however, to the view which it is my purpose to support, a statement of some few of the results of their observations seems necessary; and to one apparently palpable objection to my theory, which must occur when considering the condition of the thymus in the lower animals, I will at once allude—namely, that, although in them it has a mode of development, and occupies a site similar to that which it obtains in man, yet the ratio between the growth of the extremities and that of the body is very dissimilar. In many animals, however, particularly those which more nearly approach to man, this objection will hardly apply; for we see that a disparity in the rise of the extremities of the offspring does in them

exist for some time after birth, and is, moreover, exceedingly well marked: the slender limbs of the colt, calf, etc., require but mentioning to illustrate this. In these we find the thymus is exceedingly well developed, and how far the increase of the extremities may be influenced by or influence the organ, can be conjectured from the statement of Wharton, who noticed, that if a young ox be yoked to the plough, its thymus rapidly diminishes, and disappears in one, instead of persisting five, years. Again, it has been observed by Mr. Gulliver, that in *over-driven* lambs the thymus will shrink and become nearly drained of its contents, distending again with rest and nourishment; and, not to multiply examples, it may be generally stated that in animals, in whom free use of the limbs is early necessitated, the gland disappears soonest. Thus, in the genus *felis*, perhaps the most active of mammalia, and that in which activity is earliest called into play, the thymus disappears at a very early age, and in the wild (as *f. leo* and *leopardus*) much sooner than in the tame species. The influence of muscular action in determining growth, I need hardly say, would fully explain the wherefore of these changes, and the early disappearance of thymus would seem to as plainly indicate that from it are derived the means of such increase.

The consideration of these facts meets half-way the explanation I propose with regard to the general comparative anatomy of the thymus; it is but to apply in this case as in others the allegory, that all existing beings form the links of a chain, whose last and highest is man. Thus, if the power assigned to the gland, as a nutriment secreting organ, be allowed, it may be well imagined that its products, in the lower class of animals, in which it has been found to exist, serve to feed, as it were, the system at large: ascending in the scale, they become subservient to a purpose, specially foreshadowing their use in man, presiding over the growth of the limbs; and, lastly, in man himself, their use is seen still more limited, serving a similar purpose, it is true, but with regard to only the *lower* extremities.

The thymus gland is found only in those animals which breathe by lungs: an explanation of this may possibly be, that its products require to be submitted to the operation of the pulmonary capillaries, that certain changes may be there effected in them (similar to those which the products of digestion ordinarily undergo) before they are fitted to enter the circulation and minister to actual *growth*.

The existence of the gland is but temporary, like that of man, in all animals, with the exception of those which hybernate; its constant presence in the adults of the latter class, and its increase during the time of winter torpor, has been pointed out by Tiedemann, as also its distension at that period with a "chylous fluid", and its subsequent gradual diminution in size, the period of hybernation being past. This fact seems to support the view I have taken: in the body of an animal, in its winter sleep, absorption continuing unimpaired, oxygenation of the blood and nutrition are reduced to a minimum; hence, when spring reinvigorates and calls its energies again into play, a new birth, as it were, takes place, and a cell-formation is determined as active as that in the new-born infant, the thymus gland being endued, *de novo*, with corresponding activity.

5. THE DURATION, GROWTH, AND WASTING OF THE THYMUS

The existence of an organ, when considering the purposes it is destined to serve, dates only up to that period at which its fitness for the fulfilment of such special function ceases; hence, it may be stated, that the persistence of the thymus gland continues only till about the second year of mundane life, to an age at which the child begins to move actively alone, to walk and run unassisted. The traces of its existence which remain in after life, vary greatly in amount in different individuals, but apparently fulfil no purpose in the economy, and may be considered as continuing only in obedience to a seemingly universal law, which rules that a body, once produced and organised, shall never again be entirely removed. The date of the origin of the thymus is somewhat more obscure. Adopting the view of Mr. Goodsir, that it is essentially a highly developed remnant of the blasto-dermic membrane, it would, of course, be impossible to assign a definite period to the commencement of its growth, unless, indeed, the first existence of the membrane itself in the ovum were considered as such. The first visible sign of the gland's definite presence in the human fœtus, is stated by embryologists to occur about the ninth week. At this period, it consists of a simple tube, or "tubulo-vesicular" structure, from which, as growth advances, follicles bud out and gradually develope to form lobes, the walls of which again seem to be pitted into a vast number of ultimate secreting vesicles, as previously described; thus, the general mode of increase of the gland, in its earlier stages, bears a strong resemblance to that of the salivary and other glands.

The growth of the thymus is not uniform, being greatly accelerated towards the termination of intra-uterine existence, and still more during the early life of the infant.

Of the minute changes occurring in the substance of the gland during the period of its wasting, I find but little notice. In those cases which I have myself examined, a perceptible fading of the strong outlines of the ultimate vesicles, and a greater readiness in the "smoothing out", previously noticed, was discernible.

In the life of a human being we can trace a succession of organs, which seem, like the thymus gland, destined to fulfil a temporary function. Thus we may enumerate the vitelline sac, umbilical vesicle, Wolffian bodies, special fœtal vessels, and numerous other instances in the embryo, as illustrating this: and in after life, the thymus, the teeth, the hair, and the testicles.

In the circulating system, also, we find many instances of a power adapting it to receive, when needful, increments of normal or abnormal constitution for a varying period, similar to that above imputed to it, in regard to the contents of the thymus gland, the capability being diminished or lost after the fulfilment of such temporary requirement: as instances, the lacteal secretion, the reparation of injuries, the occurrence of the exanthemata, etc., may be adduced.

The purpose served by the thymus gland, according to the foregoing theory, tends to illustrate a physiological circumstance of great interest, slightly adverted to in a previous page, namely,—the progressive perfectionation of the framework of man in obedience to an all-pervading law. A cell or two grows by vital power alone: no heart, no

lungs exist, to replenish or purify, by their mechanism, the stream of life. In beautifully arranged order each part of the body is progressively perfected; the Great Designer "sees that it is good", and finally the last prop is taken away, and the fabric stands completed.

CASE OF INFANTILE PHLEBITIS, WITH PURULENT DEPOSITS, ERYSIPELAS, AND JAUNDICE, ARISING FROM INFLAMMATION OF THE UMBILICAL VEIN.

By WILLIAM BIRD HERAPATH, M.D.Lond., M.R.C.S.Eng., etc., Surgeon to St. Peter's Hospital, to the Redmaids' School, and to Queen Elizabeth's Hospital, Bristol.

HISTORY. Mrs. Jotcham was confined by me on the 24th of February, 1852, with her first child, a fine, healthy male. The labour was comparatively an easy one; everything proceeded perfectly satisfactorily until the sixth day after delivery. A slight hæmorrhage took place from the umbilicus at the period of the separation of the shrivelled remains of the funis, but this would not have been considered worthy of remark, had not other important symptoms subsequently developed themselves.

March 3rd. Some signs of uneasiness; griping and gastric disturbance appeared: the evacuations were scanty and unnatural, consisting chiefly of curdled milk. Vomiting was also present. Castor oil was ordered.

4th. The child improved under the treatment.

6th. As the above-named symptoms reappeared, the oil was again ordered; and as constipation existed, a larger dose was used and again repeated. A carminative was also prescribed, to expel flatulence from the stomach.

7th. The evacuations very scanty, deficient in bile, and chiefly consisted of curdled milk. The two doses of oil had only produced one movement. I ordered one grain of calomel and four of rhubarb; and directed them to be repeated in the morning, if necessary.

8th. Both powders were given, and some evacuations, having a more healthy appearance, resulted. The infant was considerably better. There were occasional spasmodic pains, accompanied by retraction of the limbs: slight shivering and moaning also occurred occasionally. The child was far from easy, but I did not see much to excite alarm.

10th. The nurse called on me to say that the child had become much worse, and "that it appeared swollen all over." Upon visiting it, I found that erysipelas had developed itself upon the index finger of the right hand, and also in the corresponding finger on the opposite side. A slight blush of erysipelas also appeared upon the second toe of the right foot: the knee was tumid, tender, and hot, but not erysipelatic. The little infant appeared to be in considerable pain; was almost constantly crying or moaning; vomiting often, with frequent hiccough; it was feverish, refused the breast, and scarcely slept at all.

The bowels were somewhat tumid, and presented a general tympanitic appearance. The umbilicus was perfectly sound and healthy: there was no hernia. I ordered an evaporating spirit lotion to be constantly applied to the inflamed and erysipelatous spots, and another dose of castor oil to be administered.

The occurrence of erysipelas in this case was entirely without any apparent exciting cause, and at first was inexplicable. The mother was in good health; the apartment was free from currents of air, in fact, warm, without being destitute of ventilation; the child had never been removed from it, and it had been carefully and attentively nursed. The appearance, however, of erysipelas, in some measure accounted for the other anomalous symptoms.

11th. The child was decidedly worse. The erysipelas extended upwards to the elbow on the left side; the fingers were considerably enlarged, and very red; there was a puffy swelling just about the right sterno-cleido-mastoid, very tender to the touch; icterus plainly exhibited itself, the conjunctivæ were orange yellow, and the skin, where free from the erysipelatic blush, was generally yellow. This was not the case yesterday, but it came on during the night: the respiration was peculiarly hurried, short, and sometimes irregular, and sighing, but there were no cough or bronchitic rale; the pulse was rapid, fluttering, and weak; slight evidence of fluctuation was observed on the right finger.

In pondering over this strange combination of symptoms, the peculiar character of the erysipelas struck me: the rapid scattering of the disease, in fact, the co-existence of the erysipelas at various points of the system, appeared very marked; it had not that erratic disposition which that disease usually assumes. These, together with the manifest existence of pus about the finger joints, led me to imagine the entrance of pus into the system, whilst the presence of jaundice appeared to point to the liver as the chief part implicated; and it occurred to me that there was a general cause acting on the whole system, and I gradually came to the conclusion that phlebitis of the umbilical vein had produced a purulent fluid, which, entering the circulation, caused the peculiar combination of symptoms which rendered the case so interesting. I at once expressed my opinion to the parents and nurse, as to the nature of the case, as well as my conviction that the little patient would not survive; but in order to make an attempt to save it, iodine was applied freely over all the erysipelatous points. The lotion was ordered to be continued constantly; and a few grains of grey powder were prescribed, together with an anodyne carminative mixture, to be frequently administered in small doses.

12th. At two p.m., the patient was evidently much worse, and was sinking rapidly. The erysipelatous redness had disappeared, giving place to a dingy purple, or livid colour. The icterus had increased in intensity: the temperature of the surface had much decreased, and the extremities were cold; respiration was becoming embarrassed, very irregular, gasping, and accompanied by a mucous rattle, whilst the mental faculties were wrapped up in a decided coma, and the eyes were glazed and open. Occasionally the child would partially arouse itself and moan piteously, but it was not sensible to external impressions of light or sound. The hiccough had become very frequent; and the pulse

scarcely perceptible from its debility, and also very rapid. Occasionally the colour of the infant would undergo a considerable change, the countenance becoming suffused with a livid purple, around the eyes and mouth being of a deeper tint. These symptoms gradually increased in severity, the respiration becoming still more embarrassed, and at length about eight p.m. it expired, in slight convulsions. Having represented the extraordinary nature of the case to the parents, they kindly consented to a *post-mortem* examination, at which my friend Mr. Parsons (to whom I had stated the nature of the diagnosis formed) was present.

13th. POST-MORTEM EXAMINATION. The whole surface of the body was of a deep orange yellow colour; also the conjunctivæ. Collections of pus existed at all the erysipelatous points: about three drachms escaped upon making a puncture with a scalpel upon the inside of the right knee. At the second joint of the left index finger a similar puncture was also made, and a teaspoonful of thick yellow pus escaped. It was beneath the integuments only, and not in the joints, in either case. About two or three drops issued upon incising the toes, in the same way. Upon cutting through the integuments at the usual position for examination, a purulent deposit was opened at the clavicular articulation on the right side. This was superficial, being situated beneath the layers of fascia underneath the platysma myoides, and between the sternal and clavicular attachments of the sterno-cleido-mastoid. It did not appear to be in any distinct sac, but below it was bounded by the junction of the fascia to the clavicle; above, the probe would pass easily in the direction of the muscle, and pus had evidently taken the same course. About two drachms of pus were found in this situation. The umbilicus was perfect, and the cicatrix sound; the umbilical vein was large, and rounded. Upon cutting it across, within the integuments, it was found to be pervious through its whole length, and filled with a curdy purulent fluid, which became more purulent as the vein was traced backwards to the liver. There were not any purulent deposits in this viscus, but it was everywhere congested and of an uniform colour. The gall-bladder contained merely a few drachms of transparent, colourless, viscid mucus; its duct appeared impervious from some cause. Upon tracing the hepatic branches of the vena porta, they were found to contain pus, even to some of their smaller subdivisions, both in the right and left lobes. These appearances, however, were not general. Two main branches and their ramusculi were principally thus diseased; one on the right, and the other on the left. The greatest portion of the pus had found its way to the right auricle through the vena cava ascendens, which of course is but a continuation of the trunk of the umbilical vein. Some slight coagula were found in the auricle and ventricle. The pulmonary artery was obstructed by tolerably firm coagula. The lungs were carnified, but of a more florid colour than from hepatisation, and appeared to resemble the lungs of an infant still-born. The inferior lobes, as well as one of the superior, were solid and did not crepitate; the other lobes were crepitant, but congested; no purulent deposits, however, were found, although carefully sought for. The foramen ovale was still pervious, although it had progressed towards obliteration. The opening was bounded by two curved margins, the superior being more

deeply curved than the inferior; the long diameter was antero-posterior, taking the usual position of the heart into consideration, and measured one-fifth of an inch. The supero-inferior diameter was one-seventh of an inch. The ductus arteriosus was impervious, but the obstacle to the passage of a probe through it was very slight indeed, and it was contracted and indurated. The left cavities of the heart contained some coagula, dark in colour, and rather firm and stringy. The thymus was not of unusual size, or otherwise abnormal.

REMARKS. The *post-mortem* examination fully bore out the diagnosis made during the life of the little patient, in every respect, as far as the nature and cause of the disease were concerned; but I had certainly expected to find extensive purulent deposits in the liver and lungs. These organs, it is true, exhibited the early signs of purulent absorption, but they had evidently suffered less from the pyohæmia than usual. The current of purulent blood had found its way to the right auricle through the vena cava, without much troubling the hepatic circulation. It had here split into two portions; one, the minor, going to the lungs, and inducing solidification; the other, and greater, passing through the foramen ovale to the left auricle and ventricle to the aorta, whence it proceeded through the systemic circulation and produced the local deposits found in the capillaries of the extremities, etc. The open condition of the foramen was not speculated upon, and overlooked until found at the *post-mortem* examination; but when discovered, it at once cleared up all difficulties. Had this aperture been closed, the intensity of the disease would have been shown in the lungs and liver without doubt; in the former principally, as the pus would have followed the course of the circulation: the liver also would have suffered, but in a minor degree, inasmuch as after birth the umbilical vein does not carry any blood into the vena porta.

In this instance, the phlebitis appeared to have crept along the lining membrane of the veins to some of the ramifications of the vena porta, and to have generated pus in its progress. These globules were then washed by the current of blood into the hepatic portal capillaries; and they would have induced deposits, had the infant lived a few days longer to give time for the development of pus, according to the physiological laws of its genesis, from the multiplication of its nuclei and nucleoli.

The umbilical vein was brought home, and its contents submitted to microscopical examination. Pus globules were detected, and the existence of softened fibrin was also recognised by the action of reagents.

ON THE ARREST OF TYPHUS FEVER BY CINCHONISM.

By ROBERT DUNDAS, M.D., Physician to the Northern Hospital, Liverpool; formerly Surgeon to H.M. 60th Regiment, and late Medical Superintendent of the British Hospital, Bahia.

NOTWITHSTANDING the evidence adduced in support of my views on fever, and my proposition to arrest the course of typhus by Cinchonism, I regret to find that these views should still be so partially adopted by the profession: an evident example of the difficulties which beset all doctrines opposed to the bias of early education, and to the time-honoured theories of the schools; against which the most positive and direct evidence, on the present question, has been nearly disregarded by the profession, though referring to confessedly the most numerous and fatal section of human diseases.

For example, the power of bark to arrest the course of intermittent fever has long been an universal fact, admitted by all; and its power over continued fever has been almost equally insisted on, I might almost say proved, by distinguished and trustworthy practitioners, from Morton and Sydenham down to the present day. Within our own time, that is, within the last twenty or thirty years, the influence of large doses of quinine in controlling the remittent and congestive fevers of the West Indies, Africa, and America, has been repeatedly pointed out by different American, French, and English army physicians; and two or three years ago, at the suggestion of my relative Dr. Leslie, the effect of cinchonising doses of quinine, in continued fever, was tried in Ireland, with success in many cases, though with doubtful results, I believe, in some.

Neither ought the assumption of the essential identity of typhus fever and ague to be deemed so irrational as some able men have lately insisted. Did not Sydenham himself, and Lind and Fordyce, the elder Stokes, and numerous other distinguished physicians, admit that ague may lapse into typhus, especially when injudiciously treated, *id est*, by depressants? and do we not constantly witness this conversion in southern climates? Tommasini, and others, pretty clearly show that yellow fever is but a more severe variety of typhus. And Dr. Graves has long since pointed out to the profession, that the fevers of warm countries and those of Ireland, "differ in degree but not in pathology". Why, then, should it be deemed unreasonable to expect that the remedy which so effectually controls the fevers of the former countries, should prove equally efficacious in those of the latter?

Dr. Graves, with his usual acumen and sound judgment, has also pointed to the folly of adopting twenty-four hours as the unit of our computations in calculating the intervals of fever; and nothing can be more irrational. Authors note the quotidian *duplex*: practitioners treat the quotidian *triplex*; and what are these but continued fevers? Dr. Shewbridge Conner observes, "some cases of typhus had pretty regular hot and sweating stages, several in a day; perhaps the cold fit escaped observation." (p. 518.) All practitioners know that the cold stage in ague is often wanting. Again, have we not a nine days' ague, and a seven days' ague, as well as a quartan, tertian, and quo-

tidian? And, as regards the regular succession of the cold, hot, and sweating stages, every practitioner, how slightly soever familiar with intermittent fever, will admit that one or other of these stages is frequently absent, and sometimes, even, that the succession is reversed. I would finally observe, that in every case of genuine typhus, when undisturbed by treatment and free from local lesions, I have invariably found more or less distinctly marked intermissions or remissions, with longer or shorter intervals. Such also are the cases in which we so constantly observe the fever to terminate by what is termed well-marked crisis.

Guided by the foregoing facts, by the observations of others, and by my own experience, and especially supported by my profound conviction of the essential identity of tropical and European fever, I pursued my investigations on the present question, until they finally assumed the form in which I submitted them for judgment to the profession. In a late notice of my work in the *Medical Times*, additional evidence is, however, demanded, and this I feel in some measure bound to supply, as clearly and concisely as possible, in the following recent cases: one from the Northern Hospital, the others by able and experienced practitioners of Liverpool and the neighbourhood. The patients were all under different circumstances, in different localities, and in different ranks of life.

EXTRACT OF A LETTER FROM T. B. GILDERSLEEVES, Esq., Union Medical Officer of Liverpool.

“51, Great George Street, 23rd March, 1852.

“ . . . Hugh Evans resisted the effects of quinine for some days; he took altogether sixteen doses of ten grains, and the only effect for some time was increased drowsiness. It was not until the last day, when I ventured on six consecutive doses of ten grains, that a favourable change occurred.”

CASES I AND II, by Mr. Gildersleeves. “Caroline Moore, aged 35, and Barbara Moore, aged 14, mother and daughter, living in a wretched court, No. 4, Jamaica Street, were both attacked with fever, and lying in the same bed. The mother had been ill seven, the daughter five days. Symptoms of typhus were well marked; the tongue was coated with brown fur and quite dry; sordes were present on the teeth; the skin was hot, dry, and covered with petechial spots; the pulse upwards of 100; the eyes were suffused; there was prostration; in the mother, some delirium. They had taken salts and senna of their own accord before I visited them. They refused to go to the Fever Hospital. I ordered for the mother ten grains, and for the daughter five grains of quinine every three hours.

“After the second dose, the mother became quite deaf; the daughter, after the third dose, complained of tingling in her ears. The medicine was discontinued with both, and sleep, for some hours, followed.

“On the *following morning*, both were *quite convalescent*. The countenance was cheerful; the tongue moist, and the brown fur had disappeared. The petechial spots remained for more than a week, and great debility, but there was no relapse.”

CASE III. “Hugh Evans, No. 3, Crump Street, had been ill two days. I prescribed a dose of calomel and antimony, under the supposition that the disease was simple febricula. Typhoid symptoms

supervened on the fourth day. The tongue was brown, with sordes on the teeth; pulse 110. He had severe headache, and low muttering delirium. I ordered three ten-grain doses of quinine, one to be taken every three hours, and six ounces of wine, to be taken at intervals; a blister to the nape of the neck.

"*Fifth day.* There was no improvement; the quinine and wine were continued as yesterday.

"*Sixth day.* There was slight improvement; less stupor. The quinine and wine were continued.

"*Seventh day.* The patient was in all respects worse; he was covered with petechial spots; greatly prostrated; and had subsultus and twitching of the limbs. I ordered six ten-grain doses of quinine, one to be taken every three hours; his wine to be continued, and a quart of ale to be given.

"*Eighth day.* There was a most remarkable change. The tongue was moist and clean; the brown fur gone. He was perfectly sensible; complained of great debility, but as regarded fever, was quite convalescent. He had no relapse. T. B. GILDERSLEEVES."

I had here intended to refer to cases observed by Mr. Bainbridge, Mr. Jones, Mr. Blackburn, Mr. Hensman, Mr. Pye, and Mr. Arnold, of Liverpool; Mr. Gorst, of Rock Ferry; Mr. Swinden, of Wavertree; Mr. Glazebrook, of West Derby; Mr. Longton, of Southport, etc., etc.; cases highly important from the character and talent of the observers. The case from the Northern Hospital was also very striking. Space, however, compels me to postpone them. Moreover, the introduction of further evidence on this point might, perhaps, be deemed an act of supererogation by the profession, after perusing the subjoined extract of a letter just received from Dr. Graves, of Dublin.

"Merrion Square, 22nd March, 1852.

" At my desire, your quinine treatment of typhus has been tried in one of our hospitals, and with success. When I receive the notes of the cases, I shall not fail to let you know."

The following letter, subsequently received, from Dr. Richard Kelly, physician to the Drogheda Fever Hospital—the gentleman selected by Professor Graves to test the value of "cinchonism in typhus fever",—needs no comment. These names will thoroughly fix the attention of the profession.

"Drogheda, 3rd April, 1852.

"With regard to your original treatment of typhus fever, I must acknowledge myself a convert, as I have treated eight cases of the most severe description with the happiest results.

"I shall, however, enter into details of one of the most severe cases under my care.

"A poor farmer, named Pentony, aged 55, was admitted into hospital 16th February, had been ten days previously ill. The pulse was 120; the tongue dry and brown; he had constant muttering delirium. The respirations were forty; the skin covered with maculæ; the temperature 90°. He had involuntary discharges, and subsultus tendinum.

"In two days after the administration of quinine (according to your directions) he was convalescent, and left the hospital in excellent health ten days after.

"In my opinion, such a happy result could not have been procured by any other treatment that I am aware of.

"In three of the fore-mentioned cases, four members of the families died in the houses from which my patients were removed; and in one case, the patient had been afflicted with chronic bronchitis for years, but it did not militate against the treatment.

"Trusting that such an invaluable improvement may be adopted by the members of the profession, and that my humble testimony may be of service in the trial of it. I remain, etc., R. KELLY."

"To Dr. Dundas, Liverpool."

In the conviction that my late work, *Sketches of Brazil*, had placed the question of cinchonism in typhus fairly before the profession, I had determined there to leave it, satisfied that the universal experience of the profession must soon accomplish the rest. The following late occurrence has modified this expectation.

Within the last few days, a professional friend, by my request, brought the question of "cinchonism in typhus" before one of the most eminent physicians in the metropolis, a name second to none, distinguished as an author, and one of the most esteemed teachers of medicine in London, as well as physician to one of the largest London hospitals. Yet this gentleman (justly occupying the very highest rank in his profession) had not only not tried the system himself, but, on mere theoretical reasoning, he condemned it altogether as visionary and dangerous. "He did not like fever-curers."

Now such, I humbly submit, is not exactly the spirit in which new and important views should be entertained by leading members, and, more especially, by the teachers of our profession, even though such views should be supported by evidence less direct and positive than that which I was enabled to adduce in proof of mine. Surely, the testimony of a physician to St. Thomas's Hospital, of the physicians to the Liverpool Fever Hospital, the Birkenhead Fever Hospital, the West Derby Fever Hospital, the Liverpool Northern Hospital, the Drogheda Fever Hospital, with that of numerous private practitioners of eminence; surely, I repeat, such testimony ought to have obtained, for any system, a fair and impartial trial, putting altogether aside my own experience, on which I have, purposely, little insisted.

This question, however, having been now taken up, in the true spirit of investigation, by such men as Professor Graves of Dublin, Christison and Bennett of Edinburgh, Todd, Budd, etc. of London, the true value of "cinchonism in typhus fever" must, ere long, be established beyond the reach of a doubt or a sneer. But I would also earnestly entreat that the different practitioners throughout the kingdom should make known to the profession the results of their experience in their different localities, and in the different classes of society.

I would here beg to recal, briefly, a few of those principles on which I have elsewhere strongly insisted, namely, that the value of cinchonism in typhus will be in proportion to its early induction; that, adopted early, it arrests with certainty, in the vast majority of cases, the course of all continued fevers,¹ and thus prevents the complica-

¹ Dr. Billing in his valuable work, *Principles of Medicine*, lays down (p. 103) that "quinine has not much influence on any continued fever." Has Dr. Billing ever tried it?

tions which prolong the disease, and peril life; that we cannot arrest all cases of typhus fever by cinchonism, nor can we all cases of ague: serious visceral disease, in either case, will interrupt the specific power of the remedy; also, idiosyncrasy in some, and a broken-down state of the constitution in others, will prevent its success; that a vital organ already seriously damaged, or the vital fluids already seriously vitiated, will necessarily render the success of cinchonism doubtful; but that in none of the foregoing conditions, idiosyncrasy excepted, should the remedy be altogether suspended; for even in these, its administration will prove commonly useful, and *always* safe; that, after the first impression has been made on the disease by cinchonism, the patient should be constantly, and *well supported*; no slops. Wine will be often necessary, and, especially with hospital patients, brandy. To the purely medical measures I need not refer; but there is one other point on which I am anxious to fix the attention of the profession, namely, that in estimating the specific power of cinchonism over typhus fever, the practitioner must carefully distinguish those cases of visceral disease, attended with low inflammation and typhoid symptoms, which are constantly admitted into hospitals as "typhus" or "typhoid" fevers. In these cases, the failure of cinchonism attaches, not to the remedy, but to the physician.

I may, perhaps, be here permitted to offer a few words on a late notice of my work in the *Medical Times and Gazette*. My reviewer states, that he had observed certain shades of colour, but *never eruptions*, in tropical fevers. Surely there must be some mistake here: never witnessed eruptions in the severe and fatal forms of the congestive remittent and continued fevers of warm climates! The identical shade of colour may not, certainly, be always found in a London garret with the mercury at zero, as at the equator with the thermometer at 90°: who expects it? But eruptions most undoubtedly there are, and in great variety too. Amongst others, what practitioner has not witnessed, in warm climates, the mulberry-coloured spots passing into the petechial? The climate of Charlestown is thoroughly tropical. Must Dr. Wragg's late account of the Charlestown fever, then, be deemed a myth? My reviewer must, of course, have observed the fevers of hot climates, because he tells us so; but this I boldly aver—His has been a limited experience; for I will not insult *his* "diagnostic skill" by comparison with that of "old women" of the London Fever Hospital—a standard which he, however, has not hesitated to apply (under the safe security of an anonyme) to the most distinguished physicians of Dublin and Edinburgh, France and Germany; though he has not indeed favoured us with the precise evidence on which he has arrived at conclusions so deeply humiliating to the "diagnostic tact" of his brethren. One might here naturally exclaim, if such be the skill of the humble servitors of the above institution, what may we not look for from the "Dii Majores" of the temple!

As regards such humble observers as myself, it is somewhat consolatory to know, that more competent authorities have found equally "inappreciable" those distinctions which I have declared, and must still declare, to be practically visionary.

Amongst others, the *British and Foreign Medico-Chirurgical Review* states (No. XV., p. 27), "Typhus and typhoid fevers have been con-

stantly before our eyes, and we have failed to find out their differences, striking as they appear to be in the pages of Jenner and Stewart." Whilst the *Dublin Quarterly Journal of Medical Science* (No. XXIV., pp. 440-447) observes, in reference to the same subject, "We believe that these two forms of disease are....*blood* relations, and that they cannot be separated....they are one."

Now, at the risk of being deemed ungallant to the ladies, truth compels me to avow that, in this part of the world, we are disposed to admit the above evidence, malgré the "diagnostic tact" of all the "old women," or young, of the London Fever Hospital.

As my reviewer has not stated my theory of intermittent fever, nor the evidence on which it is based, "I must content myself with a protest against his opinions."

I would here beg to express to Dr. Jenner my regret that, in my brief allusion to his valuable cases, I should have placed the words "typhoid fever" between inverted commas. I must at the same time confess that I am still unable to assign case 35 to a category different from that of its immediate predecessor.¹

Liverpool, April 1852.

BIBLIOGRAPHICAL RECORD.

1. ON THE DISEASES OF THE BLADDER AND PROSTATE GLAND. By WILLIAM COULSON, Esq., Surgeon to St. Mary's Hospital, &c.
2. A PRACTICAL TREATISE ON THE DISEASES AND INJURIES OF THE URINARY BLADDER, THE PROSTATE GLAND, AND THE URETHRA. By S. D. GROSS, M.D., Professor of Surgery in the University of Louisville, etc.
3. THE ANATOMY AND DISEASES OF THE PROSTATE GLAND. By JOHN ADAMS, Esq., F.R.C.S., Surgeon to the London Hospital, etc.
4. THE PATHOLOGY AND TREATMENT OF STRICTURE OF THE URETHRA. By JOHN HARRISON, Esq., F.R.C.S., formerly Lecturer on Surgical Anatomy.

It has been a subject of complaint, that while every other organ of the body has been the subject of separate treatises and monographs, no full and comprehensive account has appeared of the DISEASES AND INJURIES OF THE URINARY ORGANS. The works, whose titles are above quoted, will effectually remove this charge against the literature of our profession. It must be admitted, that up to the present time the student has been at a loss where to seek for a full and comprehensive account of the various diseases and lesions of the urinary apparatus. The work of Sir B. Brodie, having the advantage of containing nothing which he had not himself observed, is on this very account far from being a complete treatise; and although it holds a de-

¹ Discussing yesterday the question of cinchonism in typhus with one of the most eminent local physicians attached to our largest hospital, I altogether failed to convince him of the *safety*, even, of the treatment. I urged the fact of its *universal* adoption at our Fever Hospital here; and, what I thought would prove conclusive, its perfect success at one of the Irish Fever Hospitals, where it had been tested at the suggestion of Dr. Graves. On this evidence, I begged that he would give the system even a single trial: "*I dare not try it*", was his sole, and evidently conscientious, response. R. D.

servedly pre-eminent position, and every part of it will be found pregnant with sound practical observations, yet it was requisite that the diseases of the different parts should be considered separately and more in detail—a want which has been admirably supplied by the works which now occupy our attention.

MR. COULSON'S excellent volume, we are happy to see enlarged so as to contain all the discoveries and observations of the present day. It has the advantage of combining an account of the past and the present history of this branch of surgery; and the opinions of its author bear the stamp of being matured by a long course of practice. In this, the fourth edition, Mr. Coulson has availed himself of the most recent discoveries, resulting from the application of chemical knowledge to the elucidation of those processes of the animal economy which are more immediately connected with the urinary organs, and has also availed himself largely of the aid of the microscope in the examination of urinary deposits. Let us add, that the practical and comprehensive character of Mr. Coulson's volume claims for it a place in the library of every surgeon who desires to be on a level with modern improvements.

In the first chapter, containing an account of the NORMAL STATES OF THE URINE, we have a good account of the different constituents of healthy urine, described with a full appreciation of the labours of others, and with unassuming candour.

It must, however, be confessed, that it is a difficult task to adapt the labours of others satisfactorily to one's own use, and especially difficult is it for the physiologist or pathologist to apply with exactness in the living bodies the rules which regulate the chemist in the laboratory. Thus we find the practical surgeon (p. 5) stating, that "the solid contents of the urine cannot be told from the specific gravity; and the only correct method of estimating them, is by actual evaporation and weighing": and then, again, the author, speaking with chemical precision, stating (pp. 10, 11.), "In order to ascertain the quantity of solid matter in sixteen ounces of urine, it is only necessary to refer to the following table, constructed by Dr. Henry, which enables us to determine, without evaporation, the quantity of extract contained in the pint (16 ounces) of different specific gravities."

In like manner, many of the theories which originate from the highest chemical authorities, lose much of their precision when applied to individual living beings. The various substances which compose a living animal, may be formed and reformed under such a variety of circumstances in the body, that an analysis of them in a separate form may give us but a very imperfect idea of their nature and properties. The following theory we have upon the authority of Liebig: however ingenious the reasoning may be by which such theories are formed, and however amusing they may be to contemplate when formed, yet unless we have the means of testing their accuracy, and of satisfying *ourselves* of their applicability, they will render us but little practical benefit.

"The incombustible parts of the blood, that is to say, its saline matter, when all that is variable or accidental is left out of view, are the same, at all times, and under all circumstances, in all animals. These invariable incombustible substances consist of phosphoric acid, combined with the alkalies, potash, and soda, and with alkaline earths, lime, and magnesia, oxidized iron, and common salt, or chloride of sodium; these same substances are the incombustible matters of the food. If the food fails, or fails to contain a sufficiency of these incombustible substances, then the same substances fail to appear in the blood, while the body continues in health, and is neither gaining nor losing in weight. These incombustible substances do not accumulate within the living system. The quantity of such matters thrown off equals the quantity received into the body during a given time; and there are two principal, if not exclusive, channels by which these incombustible

substances are thrown off, namely, the intestinal canal and the kidneys. In all animals the blood is alkaline, notwithstanding that it contains phosphoric acid, the acid being neutralised by an excess of alkali, for example, of soda. The blood of vegetable feeders contains a much less proportion of phosphoric acid than the blood of carnivorous animals; and yet, as regards the presence of the above-named incombustible substances present in the flesh of the two orders of animals, there is no perceptible difference. Thus in the vegetable feeders, a less proportion of phosphoric acid is made to serve the same purpose in the nutrition of the solids, as the larger proportion present in the blood of carnivorous animals.....The urine of man and of carnivorous animals has always an acid reaction, and this depends upon the alkaline phosphate of the blood having been deprived of a portion of its base, by the acids produced by the blood, such as the uric. The urine of vegetable feeders has no acid reaction, since the carbonic acid which replaces so large a proportion of the phosphoric acid in their blood, unites with the earthy bases lime and magnesia." (pp. 49, 50.)

ABNORMAL STATES OF THE URINE. After the consideration of the constituents of healthy urine, Mr. Coulson passes on to consider its abnormal conditions. The principal of these is albuminous urine; but this has of late received so much attention, that it is unnecessary at present to dwell upon it at any length. One point only we will here notice, namely, that a sufficiently marked declination does not appear to us to be drawn between cases of albuminous urine, secreted as such from the kidney, and cases in which the urine becomes albuminous by being mixed with pus in its transit through the bladder or urethra. It is well known that pus contains a quantity of free albumen, capable of becoming dissolved by water brought into contact with it. We believe that many cases, in which the urine has thus become albuminous, have been mistaken and treated for disease of the kidneys.

SUGAR IN THE URINE. "In healthy urine, no sugar is found. Sugar, however, is plainly formed from starch in the process of digestion, and is well known to be abundant in at least one healthy secretion, namely, the human milk. The sugar of milk is not exactly the same as the sugar of urine, but does not differ very much from it in chemical constitution. In the process of digestion, starch appears to pass under the influence of the hydrochloric acid of the gastric juice into dextrine, and subsequently the dextrine into sugar. The sugar found in morbid urine is the same as that found in grapes, to which chemists have applied the term grape sugar. It differs considerably from the sugar in the sugar cane. Hitherto, sugar has been met with chiefly in diabetes, and is regarded as a sign of true diabetes, even although it is sometimes found in small quantities in persons who are not diabetic: in this case, however, its presence is only temporary, and the quantity so small, as not to affect the specific gravity.....Bernard has stated, though the statement has not been confirmed, that if a certain spot in the fourth ventricle of the brain of rabbits be pricked, in the course of an hour or two the urine and the blood will contain large quantities of sugar.

"Dr. Bushnan, in the *Medical Times*, describes the polariscope, a new instrument for ascertaining the presence of sugar in urine. It consists of a glass tube sixteen inches long, and capable of being hermetically closed at each end by means of a plate of glass, secured by a brass ring and screw. Having completely filled the tube with the fluid about to be examined, which is done by holding it vertically, taking care that no globule of air shall be introduced, and then closing it, a ray of linearly polarised light is made to traverse it, by fixing to its extremity, directed towards a white cloud, either a Nichol's prism, or a crystal of double refracting power, as a tourmaline cut parallel to its axis; a second prism, or a second tourmaline, fixed at the other extremity, to which the eye is applied, permits us to see, through a circular division, in what degree the direction of the polarised ray is turned aside by the action of the liquid; and the angle thus formed is

proportional to the length of the tube, and to the quantity of active molecules; that is to say, to the density of the sugar, which seems to be the only active substance contained in the urine." (p. 71.)

DISEASES AND INJURIES OF THE BLADDER. From the second to the twelfth chapters inclusive, of Mr. Coulson's work, are devoted to diseases and injuries of the bladder. These we regard as more particularly derived from his own experience, and, therefore, as containing that which he has added to our knowledge upon this branch of surgery.

The second chapter treats of **IRRITABILITY OF THE BLADDER**, the common cause of which Mr. Coulson believes to be a morbid constitution of the urine, as it seldom happens that this viscus, when free from organic disease or changes of structure, dependent upon stricture of the urethra, is unable to retain healthily constituted urine. This opinion is supported by Dr. Prout, who says, that "whenever the urine is very dilute or very concentrated, or is preternaturally acid, or alkaline, or contains any unnatural ingredient, the urinary organs in general, and the bladder in particular, though perfectly healthy, are liable to become irritable."

SPASM AND PARALYSIS OF THE BLADDER. The bladder, like other muscular organs, is subject to spasm, and to the opposite state of paralysis. The latter condition sometimes following the former; and there is reason to believe that these two affections have not always been distinguished in practice. "When the bladder is full, it flows over, the urine dribbles away through the urethra, the resistance to its escape being overcome, when the walls of the organ are distended to their utmost extent. Thus it is that incontinence of urine is often a symptom of retention." (p. 109.)

After considering the bladder as affected by spasm, irritability, and paralysis, Mr. Coulson proceeds to treat of acute inflammation of the mucous membrane of the bladder, extending, not unfrequently, to the muscular coat. The different products of such inflammation open up a field of much ingenious research and practical utility. Chronic inflammation of the mucous membrane, and the corresponding and accompanying changes in the muscular coat, naturally follow the consideration of the more acute diseases, and are followed by some very interesting observations upon inflammation of the peritoneal coat of the bladder, and of the subjacent cellular tissue.

"On dissection, we not unfrequently find the abdominal, or peritoneal, coat of the bladder inflamed, as well as the muscular and mucous coats. Inflammation sometimes attacks the peritoneal covering, owing to that action spreading to it from another part of the membrane. Nevertheless, though the circumstance is rare, cases have occurred in which acute inflammation was limited to the peritoneal lining of the organ.

"The pain and its aggravation upon pressure, the state of the pulse, the countenance, and the position of the body, clearly indicate the nature of the disease. The same treatment which is employed in general peritonitis must be adopted in inflammation of the peritoneal covering of the bladder. (pp. 194, 195.)

INFLAMMATION OF THE AREOLAR TISSUE WITHIN THE PELVIS, originating from the bladder, is a subject which appears to demand further attention. The symptoms are by no means given with that degree of precision and distinctness which would enable us to distinguish the disease during life. After death, "the morbid appearances are: infiltration of serous fluid around the neck of the bladder, and between this organ and the rectum; sloughing of the areolar tissue; discoloration of the peritoneum covering the bladder and rectum, with occasional effusion of a small quantity of lymph upon its surface. . . . Sometimes the cellular tissue around the bladder is the seat of chronic disease, and abscesses may form in different parts of it without the bladder being affected. These cases are always involved in great obscurity, and they often terminate fatally." (p. 196.)

The succeeding chapters of Mr. Coulson's work treat successively of Ab-

normities of the Bladder, Wounds and Injuries of the Bladder, and Hernia of the Bladder. Five valuable chapters are then devoted to the important subject of Urinary Concretions, including separate Sections on Lithotomy and Lithotrity.

Mr. Coulson concludes his work with a consideration of the DISEASES OF THE PROSTATE GLAND, a subject which is likewise most ably treated of by Mr. ADAMS, and which is also discussed at great length by Dr. GROSS.

These latter works ought to be read by every one who wishes to become thoroughly conversant with the diseases of the urinary organs. They differ much in character, and each has its peculiar excellences. Mr. Adams' work bears the impress of containing that which he has verified in his own practice; while Dr. Gross has given us a compilation of all that has been made known upon the subject. Dr. Gross's work is so carefully arranged and subdivided, that a reference to the table of contents, or to the index, will at once guide the student to an account of the subject to which he wishes to direct his attention.

Mr. HARRISON's work is one exclusively of a practical character, and we are pleased to find it free from the theoretical views which abound so extensively in the medical literature of the present day.

In perusing Mr. Harrison's work, we have been struck with a description of what, we believe, will prove to be a great improvement in the construction of instruments used for the treatment of organic stricture. The bougie-catheter employed by Mr. Harrison is "about thirteen inches in length, forming a hollow cylinder for the extent of eleven inches, at which point there is an eyelet. It may be described as a short *conical* bougie affixed to a catheter." Very little consideration is necessary in order to perceive that, with an instrument of this sort, any required amount of dilatation can be effected, and therefore all the advantages may be obtained with a single catheter-bougie that are supposed to be derived from a number of instruments of different sizes.

HANDBOOK OF ORGANIC CHEMISTRY; Being a New and Greatly Enlarged Edition of the Outlines of Organic Chemistry: for the Use of Students. By WILLIAM GREGORY, M.D., F.R.S.E., Professor of Chemistry in the University of Edinburgh. 12mo. pp. 532. London: 1852.

This Handbook of Chemistry deserves the highest praise, as a suitable work for students. The author—though never deficient in supplying all necessary details—keeps steadily before the mind of the reader the great general doctrines of his rapidly advancing, and therefore greatly changing, department of science. We regard this as the chief excellency of Dr. GREGORY's volume—that he has not overloaded his pages with all the minutiae of modern discovery, but has rather striven to show its scope and tendency, as illustrated by abundance of well-chosen facts.

HYDROPATHY AS APPLIED TO ACUTE DISEASE: Illustrated by Cases. By T. R. ARMITAGE, M.B.Lond., M.R.C.S. 8vo. pp. 187. London: 1852.

The author does not espouse Hydropathy as an all-comprehensive or exclusive system of medicine; he only advocates the water-cure as a rational means of treatment in certain diseases, and in certain circumstances. He has not succeeded in convincing us of the propriety of a general revival of Currie's cold affusion in fever, though we admit that a proceeding of this description is sometimes of much value, and has repeatedly, in our own experience proved salutary, by moderating the pyrexial condition, and subduing or removing delirium.

Dr. ARMITAGE does not communicate any new facts or ideas.

THE BATH WATERS: THEIR USES AND EFFECTS IN THE CURE AND RELIEF OF VARIOUS CHRONIC DISEASES. By JAMES TUNSTALL, M.D. pp. 144. London: 1850.

We recommend a perusal of this interesting and instructive volume to those practitioners who are in the habit of sending their patients to foreign parts, to drink medicinal compounds from nature's laboratory, or to bathe in distant thermal waters. They may learn from DR. TUNSTALL, that in our own fair city of Bath there are springs suited to many diseases and infirmities, and which lack only the prestige derived from distance, and some difficulty of access, to render them even more in vogue than their German rivals. The Bath waters seem particularly useful in that large and increasing class of maladies which arise from too constant head-work or mental anxiety. Had space allowed us we would have extracted, entire, in reference to this subject, Dr. Tunstall's remarks on BRAIN FOG; but we are only able to give one or two paragraphs.

"No one dislikes pedantry more than myself; but I have classed together, under the above name, many functional disorders which afflict those who make great use of the pen, and, at the same time, take but little exercise—over-working their mental faculties without sufficient bodily fatigue, the subjects of them being authors, journalists, solicitors, and clerks in merchants' counting-houses, and other persons who are engaged in mental industry, not requiring, but rather preventing, bodily exertion.

"The causes of the disorder are manifestly, in the first place, severe thought and sedentary employment; the effects are those complicated functional derangements which, unfortunately, I can describe from my own personal experience, and from the cases among the gifted and talented men of letters which have fallen under my own observation.

"They are severe dyspepsia, loss of appetite, irregularity of the hepatic and renal secretions, with diarrhoea alternating with costiveness, hæmorrhoidal tumours with frequent micturition; watchfulness, irritability to the slightest external impression, nervous dreams, palpitation of the heart, with a weak and irregular pulse, and intermittent, ill-defined headache.

"The combination of all, or some of these symptoms, constitutes the first stage of the disease, during which the sufferer pursues his intellectual employment, and satisfies himself with the treatment of its more prominent symptoms.

"In the second stage, the lower extremities begin to lose their nervous power, from the pressure applied by the sitting position. Gradually the feet lose their motive action, and their sensation becomes impaired; the patient describes himself as walking, as it were, upon horsehair; the muscles of the legs and thighs waste from want of the due exercise of their muscular substance; cerebral mischief sets in, and the patient is compelled to abandon all employment; his hands, dropping to his side, refuse any longer to write down his thoughts; he, being totally helpless, is compelled to resort to medical advice.

"He has now arrived at the third, or critical stage of his disease, for upon his treatment now depends either the total loss of health, or his complete, though gradual, restoration. His symptoms are alarming, his state paralytic, showing evidence of disease of the cerebro-spinal axis, and for his relief the routine practitioner orders him bleeding and antiphlogistics. He becomes rapidly worse; all his *symptoms* increase, and still the same system is pursued: the causes of the disease are unlooked for, and their *debilitating* effects not understood. Should complete hemiplegia occur, we find it to have taken place a few days subsequently to a venesection, which we may regard as cause and effect.

"In these cases the brain gives repeated warnings, transferring, as it were, the effects of excitement to the distant nerves, which fail one after another, according to their importance in the animal economy, the great sympathetic alone preserving its integrity."

CRITICAL DIGEST OF BRITISH AND FOREIGN MEDICAL JOURNALS.

[The Articles quoted or abridged are indicated by an asterisk.]

BRITISH AND FOREIGN MEDICO-CHIRURGICAL REVIEW.

NOS. XVII AND XVIII ; BEING FOR JANUARY AND APRIL 1852.

1. PAGET'S LECTURES ON TUMOURS. January.
2. CHEVERS ON DISEASES OF THE HEART. January.
3. MEMOIRS OF THE FRENCH ACADEMY. January.
[This article contains what is of most interest in volumes xiv and xv of the Académie Nationale de Médecine, Paris, 1849-50. It occupies thirty pages.]
4. ADAMS ON THE PROSTATE GLAND. January.
5. FRENCH AND GERMAN PRACTICE OF MEDICINE. January.
6. CROSSE'S CASES IN MIDWIFERY. January.
7. HEALTH OF CITIES. January.
[This article contains matter of great value in reference to Hygienics, Statistics, and Medical Topography.]
8. ANÆSTHESIA AND ANÆSTHETIC AGENTS. January and April.
[This is a valuable digest of information. The article in the April number is devoted to the practical applications of anæsthesia.]
9. BRANSBY COOPER'S LECTURES ON SURGERY. January.
10. PHILLIPS' TRANSLATION OF THE PHARMACOPEIA. January.
11. KELLIKER'S MICROSCOPICAL ANATOMY. January.
12. MERITS AND DEMERITS OF THE OVARIAN SECTION. January.
13. DISEASES OF THE KIDNEY. April.
[This article is a review of the writings of Frerichs, Rees, Gairdner, etc.]
14. WHITEHEAD ON THE TRANSMISSION OF DISEASE FROM PARENT TO OFF-SPRING. April.
15. HUSS ON CHRONIC ALCOHOL-DISEASE. April.
- 16.* MEMOIRS OF THE SOCIÉTÉ DE CHIRURGIE DE PARIS. April.
[This article contains an analysis of the greater part of Vol. II of the Transactions of the Surgical Society of Paris. One interesting case we transfer to our pages.]
17. BASCOMBE ON EPIDEMICS. April.
18. BAKER AND GRINDON ON THE LAW OF CORONERS. April.
19. GUY'S HOSPITAL REPORTS, Vol. VII, Part. 2. April.
20. WARDROP ON DISEASES OF THE HEART. April.
21. FALLACIES OF HOMEOPATHY. April.
22. ON AUSCULTATION. April.
23. MEDICO-CHIRURGICAL TRANSACTIONS. Vol. XXXIV. April.
24. RAMSBOTHAM'S OBSTETRIC MEDICINE AND SURGERY. April.

[N.B. The above are the titles of the principal Analytical and Critical articles: space prevents us from giving a list of the minor Bibliographical Notices, or of the abstracts contained in the Periscope.]

RUPTURE OF THE VAGINA WITH PASSAGE OF THE FÆTUS INTO THE CAVITY OF THE ABDOMEN. BY M. DANYAU.

We quote the following from p. 357 of the *British and Foreign Medico-Chirurgical Review* for April 1852.

This occurred in the person of a little, robust, bow-legged woman twenty-

eight years of age. She had been already pregnant three times, delivery having on the two first occasions been accomplished by perforation, owing to the great contraction of the entrance of the pelvis. On the third occasion, labour was induced at the eighth month, and was followed by peritonitis, iliac abscess, and puerperal mania. On the 18th June, 1848, arrived at the end of her fourth pregnancy, she came to the hospital with commencing labour pains. The liquor amnii had been discharged nine hours; and under the influence of strong pains it was hoped that, owing to the small size of the child's head, the narrow orifice might be passed. The severity of the pains, however, rendered the woman very restless; and while tossing about she fell off the bed. She resumed her place unaided, and declared she had received no hurt. However, the pains at once ceased, the head could no longer be felt, the abdomen became very tender, and the woman's voice, pulse, and countenance underwent such alterations as to lead to the conclusion that the child had passed into the cavity of the abdomen. M. DANYAU, called to her one hour after, resolved upon attempting turning in preference to the Cæsarean section. On passing in the hand, the uterus was found thrust upwards, a little forwards, and to the right—the entire left half of the vagina being separated from it. Owing to the small size of the child, its extraction was performed with more facility than had been anticipated—a perforation at the base of the cranium with Smellie's scissors sufficing to lessen the head sufficiently. The placenta was easily removed from the abdomen; and no intestine descended through the vaginal aperture. No hæmorrhage occurred; but the patient seemed reduced to a state of hopeless exhaustion. She rallied, however, and in fifteen days, though advised to the contrary, she left the hospital. An examination *per vaginam*, made on the ninth and fifteenth days, furnished little idea of the severe lesion that had occurred—scarcely even any irregularity remaining at the place where the rupture had occurred, and the cervix uteri appearing just as it should do at the end of a fortnight. Soon after going out, she was seized with iliac inflammation, requiring anti-phlogistic treatment, from which she completely recovered.

M. Danyau refers to Goldson's work, (1787), in which the author relates a similar case to the above, and collects various instances to show that many cases reported as examples of rupture of the uterus have really been examples of rupture of the vagina. This view was enforced in the treatise *De Rupturâ Vaginæ*, published by Boer at Vienna in 1812, in which additional confirmatory facts are adduced. All these cases have been republished in the *Archives Générales* for November 1827. M. Danyau has not been able to find many cases on record, narrated with sufficient exactitude to assure their identity with his own, as examples of rupture of the peri-uterine portion of the vagina, with passage of the child into the abdomen. We subjoin in a note the references he has supplied.¹ Of the seventeen cases to which these accounts refer, and in none of which gastrotomy was resorted to, four only terminated successfully—those of Ross, Douglas, Smith, and the author. In the thirteen others, death resulted, either because the nature of the case was misunderstood, its progress too far advanced for interference—such interference being too long delayed—or from consecutive accidents, of which last, however, only one example is on record. The rarity of such consecutive accidents, and the successful issue of the four cases, teach the necessity of prompt decision, as well as careful examination.

¹ Pouteau, (*Œuvres Posthumes*); Ross, (*Duncan's Annals*, 1798); Andrew Douglas, (*Lond.* 1785); Courtial, (*Obs. Anat. sur les Os*, 1705); Moreno, (*Arch. Gén.*, xix, 301); Wittig, (*Obs. Vag. Disrupt.*, Berol, 1828); Smith, (*Med.-Chir. Trans.*); Michaelis, (*Siebold's Lucina*, vi, 305); Ingleby, (*Facts and Cases*, p. 204); Siebold, (*Journal*, xiii, 46); Bonetus, (*Sepulchr.* § 38, lib. iii); *Journ. der Geburtsh.*, i, 72, 1787.

JOURNAL OF PSYCHOLOGICAL MEDICINE.

Nos. XVII. AND XVIII; BEING FOR JANUARY AND APRIL 1852.

1. WEAR AND TEAR OF LITERARY LIFE; OR, THE LAST DAYS OF ROBERT SOUTHEY. January.
2. STRUCTURE AND FUNCTION OF NERVOUS TISSUE. January.
3. GERMAN PSYCHOLOGICAL LITERATURE. January.
4. PATHOLOGY OF SLEEP. January.
5. HISTORY OF MENTAL PHILOSOPHY. January.
6. PLEA OF INSANITY IN CRIMINAL CASES. January.
7. NOTES ON THE PROVINCIAL ASYLUMS OF FRANCE. By JOHN WEBSTER, M.D. January, and April.
8. PHYSIOLOGY AND PATHOLOGY OF THE BRAIN. January.
9. PREVENTION OF CRIME. January.
10. CRIME, EDUCATION, AND INSANITY. April.
11. PSYCHOLOGY OF EPOCHS. April.
12. NERVOUS INFLUENCE. April.
13. THE IMPORTANT LUNACY CASE OF MRS. CATHERINE CUMMING. [This report occupies 178 pages of close printing.]

EDINBURGH MEDICAL AND SURGICAL JOURNAL.

Nos. CXC AND CXCI; BEING FOR JANUARY AND APRIL 1852.

- 1.* HÆMORRHAGIC DIATHESIS EXEMPLIFIED IN TWO BROTHERS, WITH REMARKS UPON ITS HEREDITARY TENDENCY. By — PICKELLS, M.D. January.
2. EPILEPSY ACCOMPANIED WITH FEVER, INFLAMMATION, PERFORATION, AND GANGRENE OF THE LUNGS, AND ALSO PNEUMO-THORAX. By ROBERT SCOTT ORR, M.D. January.
3. ON MOLLUSCUM CHRONICUM. By HENRY NEBEL, M.D., OF HEIDELBERG. [In a Letter to Dr. Craigie.] January.
4. SOME POINTS CONNECTED WITH THE BRITISH NAVAL MEDICAL DEPARTMENT, AND THAT OF THE UNITED STATES. By THOMAS STRATTON, M.D. January.
5. ON DISEASE OF THE PITUITARY GLAND. By ROBERT SCOTT ORR, M.D. April.

[These numbers likewise contain several long and valuable articles, which, though designated "original", are likewise avowedly transferred from contemporary British and foreign journals.]

HÆMORRHAGIC DIATHESIS EXEMPLIFIED IN TWO BROTHERS, WITH REMARKS UPON ITS HEREDITARY TENDENCY. BY — PICKELLS, M.D.

The two brothers referred to resided at Cloghroe, about seven miles from Cork. The elder, aged about twenty, had been reaping during a hot day, when his reaping-hook, striking a stone, glanced aside, and wounded him in the wrist. He died of the hæmorrhage on the same day. The younger brother, aged fourteen, a year or two afterwards, slightly cut his thumb, with a penknife. The wound was bound up in the usual way, and the hæmorrhage ceased: on the third day, however, after slight use of the thumb, it broke out afresh, and caused death during the same day.

DR. PICKELLS makes some interesting remarks upon the hereditary nature of the hæmorrhagic diathesis. He points out, that although this tendency descends in the female as well as in the male line, it rarely shows itself in women. In support of this view, numerous cases are quoted.

MONTHLY JOURNAL OF MEDICAL SCIENCE. No. CXXXVI.,
BEING FOR APRIL 1852.

1. HEPATIC ABSCESS. By JOHN TAIT, Esq.
2. ON THE REGISTRATION OF CAUSES OF DEATH IN PUBLIC INSTITUTIONS AND IN PRIVATE PRACTICE. By W. T. GAIRDNER, M.D.
[This very able paper merits the careful consideration of all who set a value upon the Statistics of the Causes of Death; as it points at the deficiencies of existing methods of Registration, and suggests judicious and practicable means of improving them. The Medico-Chirurgical Society of Edinburgh appointed a committee to consider the plan proposed by Dr. Gairdner, and that committee made an approving report, which appears at p. 382 of the same number of the *Monthly Journal*. The committee "approve generally of the plan maintained by Dr. Gairdner, namely, that medical men should be allowed to state as many of the morbid phenomena in each case as may appear necessary to explain the event, and that all the phenomena so stated should be separately registered." The committee likewise recommend the formation of a permanent registration committee, to be aided by a grant of money from the Society.]
3. ON THE NERVES OF THE ORBIT. By JOHN STRUTHERS, Esq.
[To be continued.]
4. MEDICAL TOPOGRAPHY OF THE WESTERN COAST OF AFRICA. By D. RITCHIE, Esq.
5. ON LEUCOCYTHÆMIA, OR WHITE CELL BLOOD. By JOHN HUGHES BENNETT, M.D.
[Concluded from previous numbers.]
6. REPORT OF THE CASES OF FEVER TREATED IN THE CLINICAL WARDS OF THE ROYAL INFIRMARY DURING THE WINTER SESSION OF 1851-52. By JOHN HUGHES BENNETT, M.D.
[To be continued. Dr. Bennett breaks off in the middle of an account of the results of his trials of Dr. Dundas's quinine treatment.]
7. CLINICAL REPORT ON ARTERIAL HÆMORRHAGE. By R. J. MACKENZIE, Esq.

DUBLIN MEDICAL PRESS.

FOR JANUARY AND FEBRUARY 1852.

1. REPORTS OF SURGICAL SOCIETY OF IRELAND.
[An abridgment of these Reports will be given, from the various numbers in which they appear, in our "Reports of Societies".]
2. PATHOLOGY OF INFLAMMATION AND FEVER. By H. FREKE, M.B. Jan. 21.
3. CASE OF CANCER OF THE LIP. By J. M. BARRY, M.D. January 28.
4. CASES OF PULMONARY DISEASE. By EDMUND SHARKEY, M.B. Feb. 4.
5. ON STEATOSIS OF THE KIDNEY AND APOPLEXY. By B. WILLS RICHARDSON, Esq. February 18.
- 6.* CLIMATE IN PULMONARY DISEASE. By EDMUND SHARKEY, M.B. Feb. 25.

CLIMATE IN PULMONARY DISEASE. BY EDMUND SHARKEY, M.B.

DR. SHARKEY, after relating some cases of pulmonary phthisis which had come under his notice in Dublin, Cork, and Jersey, compares the climates of Ireland, Jersey, and the south-west of England (Penzance).

In most points, there is a great similarity between the climate of Jersey and that of the south-west coast of England. There is, however, less protection from the east wind in the former, which comes with less qualification from the salt water, from its greater vicinity to France; there is less atmospheric pressure in that island, which frequently renders those who come

from the highest mainland to Jersey drowsy for some days after landing. The summer is hotter than in Ireland; while the winter is often more severe.

It is a general opinion that the dampness of the Irish climate renders it inferior to the English. It would appear, however, from a comparison of the county of Cork, one of the dampest in Ireland, with the most favoured of the English climates, that the balance is the other way, even in the matter of moisture; and of the boggy districts of the south and west of this island, there seems to be something which countervails the supposed disadvantages of this moisture. Whether it be from the exhalations from water holding tannin in solution, is not certain; but not only is phthisis less prevalent among the inhabitants of such districts, but the disease when it occurs is not more rapid, or less tractable than in places of better report.

One great disadvantage of every portion of the "English climate" is the severity of spring easterly winds, so fatal to many pulmonary patients. Dr. Scott's observations tend to show, that this wind is less prevalent at Cove than on the south-west coast of England.

GAZETTE MÉDICALE DE PARIS.

JANUARY, FEBRUARY, AND MARCH 1852.

1. ON THE FAULTY DIRECTION AT PRESENT IMPRESSED ON MEDICAL STUDIES. January 3.
2. ON THE METAMORPHOSES OF THE AORTA IN THE VERTEBRATE EMBRYO. By M. SERRES. January 3.
- 3.* ON TRANSFUSION OF BLOOD, WITH REFERENCE TO SUCCESSFUL CASES. By MM. DEVAY AND DESGRANGES. January 3, 10, and 17.
4. ON THE MUSCULAR FIBRES OF THE NIPPLE, AND ITS ERECTILITY. By DR. A. MERCIER. January 3.
5. ON THE DIAPHRAGM IN MAMMALIA, BIRDS, AND REPTILES. By M. CHARLES ROUGET. January 10, 17, and 24.
6. ON A NEW DILATING URETHROTOME. By DR. REYBARD. January 10.
7. CASE OF FRACTURE OF THE NECK OF THE LEFT FEMUR AND OF THE LOWER END OF THE RIGHT RADIUS; with lacerated wound of the integuments on the outer side of the right knee, and other wounds, from a fall of 21 mètres (about 69 feet); cure by means of double extension, without appreciable shortening. By DR. ARMAND. January 17.
- 8.* ON THE COMPARATIVE TREATMENT OF DYSENTERY IN SPRING, SUMMER, AND AUTUMN. By DR. A. HASPEL. January 24.
[The author recommends calomel and ipecacuanha in the mild form of dysentery occurring in the spring. His essay is not finished: when it is completed, we may give an abstract of it.]
- 9.* TRIAL OF AN OFFICIER DE SANTÉ FOR A CASE OF DEATH BY CHLOROFORM. February 1.
10. ON PSYCHOLOGY. By M. BARBIER. February 1, 7, 14.
11. ON SYPHILIS IN ROME. By M. A. CHARLON. February 1.
- 12.* HEMATOZOON FOUND DURING DISSECTION IN THE LEFT INTERNAL SAPHENA VEIN. By M. E. MONGRAND. February 1.
13. MEMOIR ON IPECACUANHA. By M. DELIOUX. February 7, 14, 21, 28, and March 6.
14. LETTER ON M. HATIN'S METHOD OF APPLYING THE FORCEPS, with regard to its Previous Discovery by PROFESSOR FLAMANT. By M. STOLTZ. February 14.
15. ON A CHANGE IN THE STEM OF CEREALS, RECENTLY OBSERVED IN FRANCE. By MM. E. MONTAGNE, A. GUBLER, and E. GERMAIN. February 14.
- 16.* CASE OF NUMEROUS FIBRINOUS TUMOURS CONTAINING PURULENT MATTER, SITUATED IN THE RIGHT AURICLE OF THE HEART; with Analogous Cases, and Remarks. By M. CHARCOT. February 21.

- 17.* ON AN EPIDEMIC OF SWEATING DISEASE IN 1849, IN THE DEPARTMENT OF THE OISE. By DR A. VERNEUIL. February 28, March 27.
18. ON THE ENDERMIC APPLICATION OF TARTAR EMETIC. By DR. JULES GUÉRIN. February 21.
19. ON THE GANGLIA IN WHICH THE LYMPHATIC VESSELS OF THE TONSILS END. By DR. RENDU. March 6.
20. MODE OF TERMINATION OF THE NERVES IN THE SKIN OF THE FINGERS. By M. R. WAGNER. March 6.
21. ON THE ADULTERATION OF ARTICLES OF DRINK WITH LEAD. By M. N. GUENEAU DE MUSSY. March 16.
22. ON THE TREATMENT OF CERTAIN NERVOUS AFFECTIONS, BY THE METALLIC RINGS OF DR. BURG. By M. E. SALNEUVE. March 13, 20, 27.
23. INTRODUCTION OF A METALLIC PEN-HOLDER INTO THE BLADDER; REMOVAL AFTER SIX YEARS BY THE BILATERAL OPERATION. By DR. FONTANT. March 13.

ON TRANSFUSION OF BLOOD; WITH REFERENCE TO A SUCCESSFUL CASE. BY MM. DEVAY AND DESGRANGES.

A case is here related of a woman, aged 22 years, who was reduced to an extreme state of anæmia by hæmorrhage after abortion. In this state she was brought into the Hôtel Dieu at Lyons on October 25, 1851; and, on the following day, the operation of transfusion was performed. About 180 grammes of blood, furnished by an *interne*, were injected with care, in about two and a half minutes. Immediately after the operation, the pulse had increased from 130 to 138; the pulsations, though oscillating, were more resistant; the contractions of the ventricles were regular, and twice or three times as strong as before: the venous murmur disappeared, the patient opened her eyes, and was sensible to what was passing about her. The whole of the symptoms, in short, showed that a great influence had been produced by the operation. For some hours, reaction did not pass beyond the normal state; but, in the evening, the patient became restless, and was very delirious and restless during the night: she continued in this state during the next day (27th). On the following days, the tongue became covered with an aphthous eruption, and the patient exhaled a putrid odour, connected with a greenish lochial discharge. Subsequently to this, she had an attack of phlegmasia alba dolens, which yielded to treatment in a few days. On November 29th, she was discharged cured.

MM. DEVAY AND DESGRANGES make the following observations on the subject of transfusion of blood.

INDICATIONS FOR THE OPERATION. Transfusion of blood must be considered not as a regenerative, but as a stimulant remedy. The indication for its employment, therefore, consists in prostration from hæmorrhage; but the subject must have been healthy before the hæmorrhage took place; any organic disease will seriously diminish the chances of success. The operation is more likely to be successful, when practised at an early period, in cases of hæmorrhage during or after labour, than when it is left for some days; for, in the latter case, a degree of reaction is set up, which transfusion may aggravate; but in instances of rapid prostration from menorrhagia, for seven or eight days after delivery, the probability of doing injury is not to be put in competition with the certainty of death. The same reasoning applies to certain forms of epistaxis, intestinal hæmorrhage, etc., producing alarming results.

ON THE BLOOD TO BE INJECTED. The blood should be human, venous, and taken from a healthy male, under forty years old. In quantity, two or three hundred *grammes* (from about six to nine ounces) are sufficient: it is not necessary to supply as much blood as has been lost.

MODE OF OPERATING. One of the veins of the fore-arm having been

isolated, an incision is made in it, and a small canula introduced and tied with a thread. The blood is received directly from the person supplying it into a syringe wrapped in cloths dipped in hot water. The syringe having been adjusted to the canula, the blood is thrown in cautiously and slowly: one or two injections are made, according to the calibre of the instrument. The small quantity of air contained in the canula is not likely to give rise to any serious results.

TRANSFUSION IS NOT OPPOSED TO PHYSIOLOGY. The system ill supports sudden transitions. A person suffering from extreme hunger would receive most grave injury, if allowed to eat at once as much as he could when in a healthy state; a frost-bitten limb is rendered gangrenous, by being suddenly exposed to heat. And, in the same way, the emptied vessels cannot be abruptly filled, without imminent danger. M. Bérard very correctly observes, that transfusion is only a means of averting impending death—of giving the system time to repair its losses. The blood injected wants, to a certain degree, sympathy with the vessels into which it is thrown; but this is no more an objection to the operation, than is the comparative impurity of the air blown into the lungs in artificial respiration.

HÆMATOZOON FOUND DURING DISSECTION IN THE LEFT INTERNAL SAPHENA VEIN. BY M. E. MONGRAND.

The parasitic animal was found in examining the body of a convict at Brest. It was six and a half *centimètres* ($2\frac{1}{2}$ inches in length; and two *millimètres* (about four-fifths of an inch) in its greatest circumference. It was of a brown-red colour, and of a cylindrical form. At one end was an ovoid head, attached by a narrow neck; the latter was about a third of the length of the worm, and was marked with whitish spots on a red-brown ground. The head was about as large as a pin's head of moderate size, and whitish in colour; it was terminated by a sort of black beak. At the union of the neck with the body, there was a cylindrical enlargement, which was the largest part of the animal: this part was greyish-white in colour. The caudal extremity was a little enlarged; and, to the naked eye, appeared torn; but examination with a lens shewed it to be entire. The animal was unfortunately placed in too strong spirits, so that its internal structure could not be made out. A fine net-work, however, was observed with the microscope in one of the thinnest parts of the neck.

TRIAL OF AN OFFICIER DE SANTÉ AT STRASBURG, FOR CAUSING THE DEATH OF A PERSON BY CHLOROFORM.

M. J. C. KOBELT was tried at Strasburg, on 4th December, 1851, for having "caused the death of Madame Simon, by administering to her chloroform for the extraction of some teeth, without taking the necessary precautions, and without following the prescribed rules."

From the evidence adduced, it appeared that Madame Simon, being much troubled with tooth-ache, had consulted Professor Stoltz, who advised her to have the teeth removed. She was very timid; and when M. Kobelt arrived for the purpose of performing it, (ten days after she had engaged him for the purpose), she became very pale, so that M. Kobelt was desirous of postponing the operation. Madame Simon, however, wished the teeth to be removed at once. Chloroform was applied on a handkerchief, by being gradually approached to the nostrils and mouth, until it was at the distance of about a *centimètre* (one-third of an inch). The husband and servant, being in attendance, were alarmed at the appearance of the patient, and communicated their fears to M. Kobelt, who did not, however, partake of them until he had extracted three teeth. Becoming then himself alarmed, he applied various restoratives, but in vain. The quantity of chloroform used appeared to have been three and a quarter *grammes* (about fifty minims).

The *AUTOPSY* was performed seventy-two hours after death, by MM. G. Tourdes, Rigaud, and Caillot.

The *lungs* were very voluminous; they were externally of a rosaceous tint in front, of a wine-red behind; there were two reddish spots under the pleura, between the lobes of the left lung. The pulmonary tissue was of a lively red, becoming deeper towards the posterior part of the organ: a large quantity of blood, with a little froth, flowed from the incised surfaces. The upper part of both lungs presented emphysematous dilatation of several lobules, as well as patches of sub-pleural emphysema. The anterior edge of these lobes was much dilated with air. The lower lobes were also emphysematous, but in a less degree. All parts of the lung were crepitant, and floated in water. There was a spot of old thickening on the pleura at the apex of the right lung.

The *heart* was flaccid, and of moderate size; the right cavities were filled with liquid blood, of a deep tint, mixed with some fibrinous clots: and a much smaller quantity of blood, having the same physical characters, was contained in the cavities on the right side. The blood was not at all frothy. The caval and jugular veins contained much blood; there was also a remarkable quantity in the thoracic and ventral aorta, in the common iliacs, and in the renal arteries and veins.

The *stomach* and *intestines* presented no very remarkable appearance. The *uterus* was large, and contained some dark blood. The left ovary presented two hæmorrhagic spots: the right ovary one. The fimbriæ of the Fallopian tubes were not in connexion with the ovaries.

In the vessels on the surface of the *brain*, and in the basilar artery, some bubbles of air were observed; the pia mater was not engorged. The cerebral substance was much softened, of an oily consistence; but exhaled no fetid odour; it was of normal colour. A very small quantity of serum was in the ventricles. The other parts of the encephalon, and the spinal cord, presented nothing worthy of notice.

CHEMICAL ANALYSIS OF THE BLOOD AND OF VARIOUS ORGANS. This was effected by passing a current of air over portions of the viscera placed in a porcelain tube, which was heated to redness, and connected with which was a glass tube with three bulbs, containing a solution of nitrate of silver. The apparatus was tried with portions of viscera and of the blood of animals and of persons who had died; no effect was produced; but with the blood and viscera of Madame Simon, an abundant precipitate was formed with the nitrate of silver. The same effect was produced on testing in the same manner the blood of a man who had had his leg amputated under the influence of chloroform.

M. Sédillot, being called on to give his opinion as to whether the death was caused by chloroform, and whether M. Kobelt was culpable, replied to the effect that the fault lay in the manner in which the chloroform was administered: and that M. Kobelt had only followed the usual practice. He recommended that the chloroform, when given, should be diluted with a large quantity of air, that ten minutes should be occupied in rendering the person insensible. M. Kobelt had evidently produced anaesthesia rapidly, by soon applying the handkerchief close to the face of the patient; and this method M. Sédillot believed to be most dangerous.

The court acquitted M. Kobelt.

CASE OF NUMEROUS FIBRINOUS TUMOURS CONTAINING PURIFORM MATTER, SITUATED IN THE RIGHT AURICLE OF THE HEART:

WITH ANALOGOUS CASES, AND REMARKS.

BY M. CHARCOT.

CASE. L. A., aged 29, was admitted into the Hôpital de la Charité, under M. RAYER, on June 10, 1850. From the age of fourteen, he had been subject, when in the least fatigued, to oppression, breathlessness, palpitation, and slight cough. At the age of twenty, he entered the army, and served

in Africa for three years; continuing in the same state of health. While there, he had several attacks of tertian ague. Three years ago, he returned to France, and followed an employment which obliged him to keep his hands constantly in water. He was accustomed to get intoxicated with white wine on the whole of Sundays and Mondays; his habitation was dry, and he lived well. Since his return, the cough, oppression, and feeling of fatigue went on increasing; but there were neither fever, nocturnal sweats, emaciation, nor hæmoptysis. Four months before admission, without any known cause, and in a single day, the eyelids and cheeks swelled considerably, and the lower limbs and fore-arms became œdematous. There were no rigors, nor pain in the kidneys; he only felt great lassitude and slight loss of appetite. He continued to work for a fortnight; but the scrotum soon became affected, and he entered the Hospital St. Antoine. He was treated there for two months, with vapour-baths and fumigations, without effect. He remained out for a fortnight before his admission into La Charité.

When admitted, there was general loss of colour and a yellowish tinge of the integument. A murmur was heard in the vessels of the neck; and a soft murmur with the first sound, having its maximum at the base of the heart. There was considerable œdema of the upper and lower limbs, with effusion into the peritoneum, œdema of the scrotum, and puffing of the face. He had frequent cough, especially at night: the sputa were green, large, round, and puriform; some were of a red tint, and streaked with blood. There was a feeling of oppression; the voice was weak but not hoarse. On the right side behind, the chest was perfectly dull and resistant; in front, the stroke-sound was remarkably clear, but the chest was resistant. On auscultation, there was heard nearly all over the side an almost amphoric murmur, and *gargouillement* composed of large bubbles, which burst with a metallic tone; there was no true metallic tinkling, nor sound of pleural fluctuation; pectoriloquy was present. The left lung appeared healthy. The heart was of normal size; as was also the liver. The spleen was hypertrophied and thickened. The kidneys seemed slightly enlarged, and tender. The urine was scanty, and albuminous. There was no fever nor night-sweats. The temperature of the surface was low; the pulse feeble, but natural in frequency; the patient was much debilitated. Powder of cedron with carbonate of iron was given.

June 22. There was diarrhœa with tenesmus; and this continued. Laudanum was given in doses of ten drops.

June 24. Clots of blood were observed in the stools. The pulse was 100, small, soft, often reduplicate, sometimes intermittent. The limbs were cold.

June 30. The diarrhœa and blood in the stools continued. The sputa were quite puriform, reddish green, and very abundant. In the course of the day, the patient was seized with pericarditis. He gradually became worse, the anxiety and dyspnœa increasing, and died on July 6th. There were no cerebral symptoms throughout the course of the disease.

POST-MORTEM EXAMINATION THIRTY HOURS AFTER DEATH. There was no cadaveric rigidity.

Lungs. The pleura of the *right lung* was adherent to the costal pleura. The organ was greenish, and hard; it contained about ten large cavities, with very little puriform matter in them. There were cretaceous tubercles at the apex of the lung. The *left lung* was but slightly adherent to the thoracic walls; it was but little crepitant throughout. On section, a very large quantity of a clear, very fluid liquid, flowed out. The vessels were filled with whitish polypoid concretions, not softened nor purulent in their interior, which could be pulled out in the form of ramified cylinders. The trunk of the pulmonary artery was filled with a concretion, having its origin in the right ventricle.

Heart. The anterior surface of the heart (which organ was of normal size) was covered with a great number of very small fibrinous vegetations. The left ventricle contained a firm, fibrous, whitish coagulum; it was prolonged

into the left auricle and into the aorta, where it ended in points. It was not softened nor purulent. The concretion was free, except at a point near the apex of the heart. The right ventricle contained a conical polypoid concretion, adherent only near the apex. It passed into the pulmonary artery; and also filled the right auricle, sending prolongations for some distance into the superior and inferior venæ cavæ: the coagulum in these parts, however, consisting chiefly of dark blood. This concretion was for the most part homogeneous; but at the lower part, near its adherence, it contained two cysts, one as large as a nut, the other of the size of a small pea. They were spherical, and had distinct, greenish walls, about ten *millimètres* in thickness. The liquid contained was green and thick, very like the muco-purulent matter found sometimes in the small bronchial tubes in catarrh. The internal surface of the right ventricle presented about twenty similar cysts, situated in the hollow between the *columnæ carneæ*, varying from the size of a pea to that of a nut. They penetrated into the muscular tissue of the heart by fibrinous pedicles: sometimes two tumours were attached to one pedicle. The cysts and pedicles were green. On being punctured, the cysts discharged puriform matter, and contracted. The cavity of the cyst was generally prolonged into the pedicle. There was no trace of vascularity in the walls of the cysts or in the pedicles.

The puriform matter contained in the cysts presented, 1. An amorphous substance, evidently disintegrated fibrin; 2. A very large number of granular molecules; 3. A certain number of round pale globules, somewhat larger than the red corpuscles of the blood, and presenting the characters of the white blood globules.

The *liver* and *kidneys* presented but slight traces of disease.

The *spleen* was hypertrophied, thickened, and hard.

The *small intestine* presented tubercular ulcerations.

ANALOGOUS CASES. These are classed in two categories. In the first, twelve examples of which are given from Allan Burns, Legroux, Cruveilhier, Guénard, Mercier, Guéneau de Mussy, and Barth, there was *puriform* matter in the centre of one or more clots, more or less organised, and more or less adherent to the walls of the heart. Two or more coagula existed in the same ventricle; they were found sometimes in the right side, sometimes in the left; sometimes in both ventricles. The puriform matter was in the centre; there was in no case a cyst with distinct walls. The patients died of various diseases; none of them had phthisis.

The second category consists of nine cases, besides the one above related, recorded by Laennec, Miguel, Legroux, Cruveilhier, Hache, and Durand-Fardel, puriform matter was contained in pouches of various sizes, appended to the walls of the *right ventricle*, and sending pedunculated prolongations among the *columnæ carneæ*. In two cases, the tumours were enveloped in a sanguineous concretion more or less isolated in the centre of the ventricles, but the membrane of the cyst was in both these cases distinct from the blood coagulum. There is reason to believe that these tumours were at first polypoid globular concretions; and the presence of some entirely fibrinous tumour met with here and there among those which were suppurating, favours this view. In nine cases out of ten, the patients died with tubercular excavations in the lungs; in one case only—that recorded by Laennec—the tubercles were only in process of softening. The encystment of the puriform matter, the number of cysts, their exclusive seat in the right ventricle, their mode of attachment by peduncles passing among the *columnæ carneæ*, appear sufficient grounds for distinction. In one case only—that related above—has a microscopic examination of the contents of the cyst been made. M. Charcot observes that this is not the only instance in which the white globules of the blood have formed puriform concretions. Dr. Hughes Bennett, in his essay on Leucocythemia, mentions the small veins of the meninges

as having been filled with a matter resembling pus, but really consisting of fibrinous filaments and white blood-globules.

The author is led to conclude that of the so-called suppurating polypoid concretions in the heart, some contain true pus, and are met with in various diseases, as phlebitis, pneumonia, etc. In other cases, the concretions contain a mass of white globules with disintegrated fibrin; and as yet have been found connected with an advanced stage of pulmonary tubercles.

ON AN EPIDEMIC OF SWEATING SICKNESS OBSERVED IN 1849 IN
THE DEPARTMENT OF THE OISE. BY DR. A. VERNEUIL.

The epidemic of sweating sickness which Dr. VERNEUIL describes, occurred at the same time with the cholera. It generally prevailed in damp and unhealthy parts. More females were attacked than males. The sweating sickness rarely attacked children under eight or ten years; cholera seized many under that age. The severity of the disease was in proportion to the age and weakness of the individual. It did not seem contagious.

The disease sometimes began without premonitory symptoms: the patients were seized with headache, general soreness, and fever; the skin, at first burning, was soon covered with sweat. Some persons would go to bed quite well; in the morning, they would present symptoms of disease. But most commonly the disease was preceded for two or three days by headache, general soreness, continued pain in the loins and lower extremities, anorexia, enlarged, moist, white tongue, constipation or diarrhœa, frequently anxiety at the epigastrium, and a feeling of constriction at the base of the chest. Little or nothing was observed amiss in the circulation or respiration.

The sweating sickness pretty often began with symptoms like those of cholera—diarrhœa, nausea, paleness, and depression of the powers. But the tolerably strong pulse, the absence of cramp and cyanosis, and the bilious stools, pointed out the distinction. Anodynes, while they arrested the diarrhœa, often hastened the development of the sweating stage.

SYMPTOMS OF THE DISEASE IN ITS CONFIRMED STAGE. *Skin.* Dr. Verneuil has not seen the excessive sweats of which some authors speak: in general the skin was moist on the forehead, neck, and chest, and sometimes on the limbs. There was no peculiar odour, beyond that which sometimes arose from dirt. The eruption was sometimes confluent. It occupied then in preference the neck, thorax, shoulders, and back. It was usually moderate; and in a third of the cases, was absent. It was a red miliary eruption, accompanied at first with tingling, and afterwards with intolerable itching. When discrete, it sometimes at first resembled measles, sometimes chicken-pox. Desquamation took place from the sixth to the tenth day: sometimes later. The sweat was most abundant at night and in the morning: sometimes it continued during convalescence, nearly all the night. Miliary eruptions, and sometimes sudamine, sometimes appeared during convalescence, but did not appear to have any injurious influence.

Organs of Digestion. The tongue was large, white, and soft, covered at an early period with a white or yellowish fur. If disorder of the digestive organs supervened during convalescence, the edges and point of the tongue often became red; it was rarely dry. The mouth was pasty, rarely bitter; in one case, there was an herpetic eruption on the lips towards the close of the disease. In three or four cases, there were diphtheritic patches on the gums. The appetite was generally lost: thirst was not intense. Some patients felt pain in the dorsal region, and at the epigastrium. The latter was one of the most constant symptoms; and it sometimes extended into the hypochondria, generally the left. Nausea was rare; vomiting still more so, being only occasionally observed in those cases which had a choleric form commencement. The spleen was painful much more frequently than the liver; sometimes it was enlarged; but this did not always coincide with periodicity in the disease. The abdomen was generally supple, and painless;

but colicky pains sometimes preceded diarrhœa, or were caused by constipation. In the latter case, mild purgative enemata soon gave relief. Diarrhœa sometimes appeared at about the fifth or sixth day; and when not of a choleroïd aspect, seemed to be favourably critical. Constipation appeared to be a normal condition in the disease.

Respiration and Circulation. Dyspnœa was sometimes felt, when the sweat was imperfectly developed, or when it was suppressed, or when too much diaphoresis was excited. When the disease was at all intermittent, the paroxysms were frequently attended with dyspnœa; this probably depended on the presence of gas in the intestines. Auscultation of the heart and lungs gave no remarkable results. The pulse at first was generally full, large, of variable frequency, but very rarely extremely high; in the decline of the disease it was slow—50 or 60. The skin was at first dry and very hot; the heat was more supportable, though greater, after the sweat broke out. Sometimes the patients complained of burning sensations, sometimes of cold, in various parts of the body.

Genito-urinary Organs. The urine was scanty. It was clear during the febrile stage, but deposited a brick-dust sediment, often causing pain in passing, during convalescence.¹ There did not appear to be any disease of the kidneys, though lumbar pains were frequent. No remarkable influence was exerted on the catamenia, except frequently some increase in quantity and duration. Pregnancy and the secretion of milk were but little influenced.

Nervous System. Headache, pains in the limbs and loins, and debility, were almost the only symptoms of disturbance of the system. The intellect always remained entire; there were no cases of convulsions, delirium, or coma, or of disorder of the organs of special sense. Sleep was good, except in a few cases, when the miliary eruption was at its height. The debility was not intense, but was general. It was sometimes present at the commencement; sometimes not till the end. The pains in the limbs were generally in the legs; they were as if the patient had been running much, or had been beaten with a stick. Both these pains and the cephalalgia were sometimes wanting.

TYPES. The disease appeared under three forms. 1. Very slight. 2. The most common form, being that described above. 3. Attended with symptoms resembling those of cholera.

In the first form, many of the symptoms above described were absent, or were very slight. The sweats continued for two or three days; the headache, *courbature*, and prostration, were moderate; the tongue was white, the appetite impaired, and the digestive organs slightly affected; the eruption was almost always absent. Convalescence was rapid.

In the second and more common form, there was a true period of incubation; headache, *courbature*, and lassitude first appeared; the pulse rose, the skin was dry and hot, or else covered with sweat; and on the same or next day, there would be tingling followed by eruption—generally discrete. Dyspnœa and some anxiety accompanied the disturbance of the skin, and ceased with it. This stage lasted five or six days; sometimes there was diarrhœa at the commencement; but constipation was most frequent. The headache disappeared about the fourth day; the tongue remained white, or cleaned a little, and the appetite returned; the urine deposited a reddish sediment. There would then be a stationary period of two or three days, during which it was necessary to keep in bed, and attend strictly to diet: relapses were then most frequent. Convalescence took place about the tenth or fifteenth day.

In the choleriform type, the diarrhœa at the commencement was the symptom which approximated the sweating disease to cholera; cramp was extremely rare, and blueness was absent. When sweat set in, the diarrhœa was arrested.

¹ Dr. Verneuil did not examine the urine chemically—a most unaccountable omission.

RELAPSES AND SECONDARY AFFECTIONS. 1. Sometimes, the sweats and lassitude would reappear, at night or by day, without evident cause. These cases readily yielded to treatment. 2. In some cases, especially females, there were developed sensations of suffocation, obstruction in the throat, insomnia, dazzling of the eyes, headache, and distaste for food. Air, moderate exercise, and some differable stimulants, were the remedies. 3. Intermittent symptoms were often observed; and Dr. Verneuil was surprised at learning that ague was unfrequent in the district. The three stages were sometimes well marked; the enlargement of the spleen did not seem to have any constant relation to the intermittence. 4. The digestive organs were much more commonly disordered. 5. Cholera was the most formidable disease which followed convalescence from the sweating sickness; and the latter Dr. Verneuil thinks to have predisposed to the former. In no case was the sweating sickness known to follow cholera.

The disease may occur in the same person more than once, either in the same epidemic or in a different one.

DIAGNOSIS was in general easy—the symptoms already described serving to point out the nature of the disease.

PROGNOSIS, in the epidemic now described, was always favourable; no fatal case occurred.

PATHOLOGY. With M. Rayer, Dr. Verneuil believes the sweating sickness to be an eruptive epidemic fever, and susceptible of all the irregularities of diseases of that kind. It is said to be endemic in certain villages of the forest of Neuville-en-Hez, but the fact requires examination.

TREATMENT. This was very simple. It consisted in covering the patient very lightly, changing it as often as required; the doors and windows were kept open, and a clear fire was lighted in the room several times in the day. Opiates and sudorifics Dr. Verneuil generally objects to; the common mild antifebrile remedies were employed. In the cases attended with intermittence, quinine was useful. In choleriform cases, stimulants, with starch and laudanum injections to arrest the diarrhœa, were useful. Careful attention to diet was requisite, both during the illness and after convalescence.

BOLETIN DE MEDICINA, CIRUGIA, Y FARMACIA.

JANUARY, FEBRUARY, AND MARCH.

1. CONSIDERATIONS REGARDING THE HOSPITAL OF THE PRINCESS. March 7.
2. BRIEF CONSIDERATIONS REGARDING SOME OF THE DUTIES WHICH A PHYSICIAN OWES TO HIS PROFESSIONAL BRETHREN. By DON NATALIO MEDRANO. March 7.
3. CASES OF CHOREA TREATED WITH VALERIANATE OF ZINC. By DON S. ESCOLAR. March 14, and 21.
4. TREATMENT OF SCHIRRUS OF THE MAMMA WITH CICUTA. By DON JOAQUIN FERNANDEZ LOPEZ. March 14.
5. ACCOUNT OF THE POST-MORTEM EXAMINATIONS MADE IN THE INFIRMARY OF ST. DOMINGO DURING THE LAST QUARTER OF THE YEAR 1851.
6. SANITARY CONDITION OF MADRID.
[Each number contains an interesting summary of facts under this title.]
- 7.* THERAPEUTIC PROPERTIES OF ARNICA MONTANA. By DON S. ESCOLAR.
8. MORBID CONDITIONS OF THE SENSE OF SIGHT. By DON EDUARDO CANALEJAS. March 28.

THERAPEUTIC PROPERTIES OF ARNICA MONTANA. BY D. S. ESCOLAR.

The author gives a pretty full account of the history of the use of Arnica Montana by medical and surgical practitioners from the earliest times. He quotes the French formulæ for its administration, and external employment; and remarks that in France it is now much less in vogue than formerly. In

Spain, he says that it is in considerable favour as a remedy; and that it is greatly appreciated by the physicians and surgeons of the General Hospital of Madrid. He quotes the formulæ used in prescribing it in that institution; and then concludes his paper by given the details of three cases of hemeralopia, which he believes to have been benefited by it, rather than by the other curative measures which were simultaneously adopted. We subjoin the Madrid Hospital formulæ, and also the cases.

FORMULÆ. 1. ANTIAMAUROTIC PILLS. Take of flowers of arnica, valerian root, and ammoniacum, two scruples; reduce them to powder, and add half a grain of tartar emetic. Divide into three doses, which are to be given in one day. The powder may be made into pills with any suitable excipient.

2. ANTITETANIC POTION. Take four fluid ounces of a very concentrated infusion of flowers of arnica; two ounces of distilled water of melissa officinalis (*common balm*); one drachm of musk, and one drachm of camphor. Add two, three, or four, scruples of nitre, according to the state of the urinary organs. The camphor ought to be powdered, with the assistance of a few drops of alcohol, putting in the musk at the same time, with a little mucilage of gum Arabic; these ingredients are then to be added to, and dissolved in the other fluids. This potion produces beneficial results in certain cases of asthma; and in nervous affections, particularly in those of a convulsive character. It is administered in doses of a table-spoonful every hour.

3. ANTISEPTIC POWDERS. Take, and mix thoroughly equal parts of powdered arnica root, of disulphate of quinine, and of camphor. Obstinate and gangrenous ulcers are dusted with this preparation.

4. INFUSION OF ARNICA. Take of the leaves and flowers of arnica montana, of each, one drachm; of common water, two pounds; and of citron syrup two ounces. This quantity is to be administered in four doses at suitable intervals. Regarding this infusion, Dr. Escobar remarks:—"This is our favourite common beverage in defluxions, and common catarrh, when unattended by fever, such as is often present in old people. We likewise use it in paralysis of the limbs, and in certain cases of nervous debility, in which a stimulant of the system is indicated."

CASE I. HEMERALOPIA. P. H., aged 17, was received into the hospital upon the 23rd of February. It appeared that the only indication of illness which he had given was this—that about twenty days before his admission his vision had become impaired, that he had lost his appetite, and that he had suffered from headache during the night, which with each attack became more severe. The debility of vision increased so much as to oblige him to obtain a guide.

When subjected to observation in the hospital, all the functions were performed naturally, excepting the sense of sight. Vision became feeble as night approached, and as it advanced he became quite blind; the frontal headache at the same time greatly increased, and though it continued on the following day, it was in an endurable degree. During the day, the eyes did not present any appreciable alteration; but at night, the clinical assistant observed that the pupil was insensible to light, remaining dilated and immoveable.

He was put on middle diet. The infusion of arnica, (made according to the above formula), was ordered to be his usual drink. An ointment of mercury, camphor, and belladonna, was likewise prescribed. On the two first days, the ointment was rubbed into the forehead, over the eyebrows; on the two next days, it was applied over the mastoid prominences, and on the two following days it was applied to the temporal regions. On the third day of this treatment, the headache had left him; and he experienced in the socket of the eyes sensations resembling the pecking of a bird's beak. On

the fourth night, he was able to distinguish objects, though as if with an intervening gauze curtain: the pricking sensations in the balls of the eyes were insupportable, although nothing wrong could be seen externally. On the fifth day, he saw objects well at all hours, though still, during the night, they had a certain degree of indistinctness, which disappeared in another day.

CASE II. HEMERALOPIA FOLLOWING PAINS OF A RHEUMATIC AND INTERMITTENT CHARACTER. A. M., aged 38, a day-labourer, a man of nervous temperament and good constitution, when admitted into the hospital, stated that in 1847 he had had a tertian fever, accompanied with night-blindness, from both of which he recovered under treatment; but he could not give an account of the medicines which he had used. He continued to enjoy good health up to the 1st of January, 1852, when he began to suffer from pain in the legs and arms, which afterwards extended to the neck and head, and was attended with tolerably smart fever. After some days, the sight began to diminish as night approached; and at last he had total blindness at night, vision returning with the morning. He then went into the hospital at Toledo, where he remained for a month, but without deriving any benefit. On the 7th March, he entered the General Hospital of Madrid. He was put on spare diet, and his usual beverage was directed to be a mixture in equal proportions of infusion of arnica and infusion of valerian. Three powders were prescribed, each of which contained half a scruple of valerian, and three grains of oxide of zinc. The forehead and temples were anointed at night with a pomatum, containing belladonna and mercury. Next day he felt better; and on the fifth day from his admission, he left the hospital perfectly cured.

CASE III. HEMERALOPIA SUPERVENING UPON CHRONIC GASTRO-ENTERIC HEPATITIS; CURE OF THE FORMER, AND SOME RELIEF OF THE LATTER. D. F. M., a married man, aged 60, an advocate reduced in circumstances from political vicissitudes, sought an asylum in the hospital upon the 23rd February, 1852. The surface of the whole of his body had a pallid aspect. He complained of constant headache, the pain being alternately in the frontal and syncipital regions; also of pain in the epigastrium, (particularly three hours after eating), which extended from the right side of the chest to the scapula of the same side. The right hypochondrium was swollen, he was troubled with acid eructations, and other dyspeptic symptoms. The pulse was 75; the respiration was good; the urine was scanty, and deposited a sediment. The most prominent symptom, however, was hemeralopia: as the day advanced, his vision gradually became weaker, and at night he was unable to see. He had tried various plans of treatment without benefit. When the eyes were examined, after his admission into the hospital, nothing abnormal could be detected; but the clinical assistant reported that during the night the pupil was fixed, and extraordinarily longitudinal (*lineal estrordinariamente*).

He was ordered to have rice-diet, and, as a beverage, a weak decoction of flea-wort (*plantago psyllium*). Twelve leeches were applied to the anus, and emollient cataplasms, thrice daily to the abdomen. At night, he had nitro-muriatic acid baths. On the 24th, 25th, and 26th, the symptoms as regarded vision were the same, but the abdominal pain was relieved. On the following day, the antiamaurotic pills, (of the hospital formula), were commenced; and the nitro-muriatic baths were discontinued. The ointment of mercury and belladonna was also used as in the last case. In four days, the hemeralopia had completely disappeared.

In place of merely giving the results as stated by the author, we have given a condensed account of these cases, so as to enable our readers to determine for themselves how much of the cure was fairly due to the arnica, and how much ought to be ascribed to the other remedies employed.

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- 18.* REMARKABLE CASE OF HYDROCEPHALUS. By H. HINKLEY, M.D.
- 19.* CASE OF EMPHYSEMA OF THE CELLULAR TISSUE OCCURRING DURING LABOUR. By L. S. JOYNES, M.D.
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REMARKS ON ATELECTASIS PULMONUM, OR IMPERFECT EXPANSION OF THE LUNGS, AND COLLAPSE OF THE LUNGS IN CHILDREN.

BY J. FORSYTH MEIGS, M.D.

DR. J. F. MEIGS observes that atelectasis pulmonum, or imperfect expansion of the lungs, is found under two different conditions: 1. As it exists in young infants, who have never completely established the respiratory function, and in whom, therefore, larger or smaller portions of the lungs have never been invaded or expanded by the inspired air; and 2. As it exists in those who have, at birth, accomplished the respiratory act, but in whom, from some cause acting at a longer or shorter time after birth, the texture of the lung has again collapsed, and become impermeable to air. He relates several cases, to illustrate the nature, causes, symptoms, and treatment of this disease.

CASE I. EFFECTS OF IMPERFECT EXPANSION IN THE NEW-BORN CHILD. A healthy vigorous woman was easily delivered, at the full term of a health-

ful pregnancy, of a male child, well developed. It was pale and feeble, did not cry, and exhibited none of the usual muscular movements. The colour of the surface was pale, the extremities cool, and the hands and feet bluish. The breathing was short, quick, and abdominal; there being scarcely any lateral movement of the chest. Notwithstanding the assiduous employment of stimulants and other means, the blueness increased, the breathing grew shorter and more imperfect, and the child died twenty-one hours after birth. At the autopsy, the greater part of the lower lobes of both lungs was dark, livid, hard, non-crepitating, and cohesive. On passing a blow-pipe into the primary bronchus and inflating with the mouth, these portions at once rose to their natural level, becoming elastic, soft, and crepitating; their colour also changed to the rosy or pink tint of healthy pulmonary tissue. No other signs of disease were found in the lung. Dr. Meigs is inclined to believe that, in this case, the placenta became separated from the uterus at too early a period of the labour, by which the vital forces of the child became lowered, so that it was deprived of the muscular strength necessary for producing full expansion of the thoracic cavity.

CASE II. EFFECTS OF IMPERFECT EXPANSION ON THE HEALTH, WITHOUT CAUSING EARLY DEATH. A girl, the child of very healthy parents, was, when born, so feeble as to require the aid of artificial stimuli to respiration; its breathing was from that time short, frequent, and rather imperfect; and, for some days after birth, it presented a bluish tint, and low temperature of the hands and feet. In March 1850, when two months old, it had an attack of bronchitis, complicated with a tendency to intermittent fever, during which it exhibited symptoms of exhaustion, of partial asphyxia, and of embarrassed respiration, more severe and threatening than could be accounted for by the amount of catarrhal inflammation present. At the age of thirteen months, in spite of most careful hygienic and medical treatment, the child was not larger, nor its intellect more developed, than in most healthy children at nine or ten months. Its limbs were small and thin, and its muscular power feeble, so that it had never attempted to creep or walk, or to bear its weight on the limbs. The lower extremities instantly gave way, on making the attempt to stand; but there was no paralysis. The respiration was habitually short, high, and more frequent than natural. In February 1851, the child had an attack of pleurisy, of which it died on March 10th. Towards the close of the case, the breathing was purely abdominal, and there was a sinking-in of the thoracic walls during inspiration, forming a gutter or depression at the base, nearly on a line with the attachment of the diaphragm.

At the autopsy, the right pleural sac was found to contain about six ounces of pus; the lung was pushed back against the side of the spine, and was entirely impermeable to air. The left lung presented, in the inferior two-thirds of the lower lobe, the appearance usually described as carnification. This portion was depressed, livid, dense, hard, and non-crepitating. It did not break down under the finger, nor was it easily penetrable by the finger. On inflating the lung by means of a blow-pipe,—to effect which repeated and powerful expiratory efforts were necessary,—the non-expanded part became dilated, and assumed the healthy rose tint, becoming elastic and crepitating.

CASE III. ATELECTASIS OCCURRING SUBSEQUENTLY TO BIRTH. A male child, born at the full term, was in all respects healthy and well developed. It was seized, however, shortly after birth, with slight thrush; and, as that disease was passing away, the wet-nurse was taken ill, so that it became necessary to employ artificial nourishment. The thrush became worse, diarrhoea set in, the child lost flesh and strength; and the cry was observed to be weak for some days before the atelectatic symptoms appeared. On the twenty-fifth day after birth, it had a very slight cough, and sneezed several times. In the evening, (the air of the room having been contaminated by

the escape of gas), it was suddenly seized with convulsions, attended with a marked cyanosed tint of the surface, and with short, imperfect, and slow respiration. The least disturbance made it start, and sometimes brought on convulsions. The treatment employed was the administration of three drops of brandy in some breast-milk every hour; wrapping in warm blankets; the application of vessels of hot water to the feet; placing the infant on the *right* side, with the head and shoulders elevated; and perfect rest. Under the use of these remedies, the convulsions gradually ceased in a few hours, and the natural colour and warmth returned. The next day, it was drowsy and feeble in the morning, and had violent attacks of screaming when nursed, but no convulsions; in the course of the day, it was convalescent, only looking thin and delicate. Two months after, it was a fine, healthy boy.

The symptoms could not have depended on cardiac imperfection; for there had been no signs of this, and no condition of the heart could have induced such a transitory attack of cyanosis. Nor was gastric or intestinal irritation the cause; for the thrush and diarrhoea were not severe; and the convulsions were attended with more stiffening and rigidity than in cases from intestinal irritation; there was also too much and too lasting blueness; and too much disturbance of the respiratory function. The child, debilitated by want of nourishment, and by thrush and diarrhoea, had very slight catarrhal symptoms: it was exposed to air contaminated with gas, and soon after portions of the lungs collapsed, so that not only was there non-oxygenation of a certain portion of the blood, but also a positive obstruction to the circulation of the blood through the lungs, and a consequent accumulation of black blood in the venous system. Under these conditions, the supply of nervous power would be insufficient, and irregular, imperfect, and convulsive muscular movement would result: and the nervous system would shew a high degree of irritability.

CASE IV. This case is mainly similar in symptoms and treatment to the one just noticed.

The position on the right side, with the head and shoulders elevated, and perfect rest, is recommended by Dr. C. D. Meigs in cases of cyanosis neonatorum. In such cases, it is supposed to act by the septum auricularum becoming horizontal, so that the blood from the right auricle would have to rise against gravity to pass through the foramen ovale: but in the cases of atelectasis, Dr. J. F. Meigs believes that this position is best, because the left side of the chest is then free and unembarrassed, and the movements of the chest are more easy and complete, than when on a plane surface. Perfect quiescence is a very important part of the treatment.

COLLAPSE OF THE LUNGS IN CHILDREN OF A MORE ADVANCED AGE is a very important affection. In 1844, MM. Legendre and Bailly published their researches on this subject in the *Archives G n rales de M decine*. They have shewn that collapse of the lungs constitutes an important part of the disease in many cases of pneumonia and bronchitis: and they even assert that most cases of so-called lobular pneumonia are cases of bronchitis attended with collapse of a portion of the lungs.

Collapse of the lungs has been mostly confounded with pneumonia; and MM. Rilliet and Barthez, though aware that the so-called carnification in many cases differed much in appearance from the effects of ordinary pneumonia, and though they even perceived the resemblance of the collapsed lung to the unexpanded foetal organ, yet seem to have been possessed with the idea that it was dependent on inflammation. The distinguishing marks are the following. In atelectasis, the altered position is smooth and shining, and is depressed below the general surfaces, and is of a purple or violet colour: in pneumonia, the surface is dull, and often roughened by pleuritic inflammation, is of a brownish-red colour, and the part is distended in volume. In atelectasis, the tissues retain wholly, or in a great degree, their cohesive qualities; they are not readily penetrable or lacerable by the finger, while in inflammation they are softened, friable, and easily torn or

crushed. In atelectasis, the cut surface exhibits no granulations: in pneumonia, the granulated appearance of a cut surface is constant. Atelectasis is usually found in both lungs; pneumonia, except in the true lobular form, is nearly always confined to one. The secondary lesions of pneumonia—pleuritic and bronchial inflammations—are absent in atelectasis, except when the latter occurs, as it often does, as a complication of pneumonia and bronchitis. In collapse, the altered portion can be more or less inflated by artificial respiration—not so in pneumonia.

The causes of this form of collapse are, general debility, producing impaired muscular power after exposure to unfavourable hygienic conditions, or after attacks of exhausting diseases; or from obstruction to the entrance of air, occurring in bronchitis, broncho-pneumonia, and pneumonia—favoured probably by the diminished muscular power, consequent on the debility and prostration.

The most important symptoms are the sudden occurrence of short, high, and rapid breathing, with dulness on percussion, feeble respiratory sound, and more or less mucous or sub-crepitant râle; the general symptoms being those of exhaustion or want of action. When the collapse occurs in the course of bronchitis or pneumonia, there will be a sudden increase of the dyspnœa, and a development of asphyctic phenomena, without a corresponding increase of the febrile symptoms.

In the treatment, the patient should be put upon the use of small doses of brandy, of tincture of bark, or of quinine, and upon a diet of milk and broth; while, at the same time, the surface of the thorax ought to be gently irritated by mustard poultices, or by friction with hartshorn and oil of amber, or sweet oil.

DELIRIUM TREMENS SUCCESSFULLY TREATED BY THE ADMINISTRATION OF CHLOROFORM. BY STEPHEN H. PRATT, M.D.

Two cases are recorded by Dr. PRATT. We much prefer the *inhalation* of chloroform in cases of delirium tremens, to the method in which Dr. Pratt used it. By the former means, we have found sleep to be quickly induced, and safely prolonged for hours.

CASE I. E. B. had been treated for seven days by opiates and stimulants, for delirium tremens. He had not slept, was very feeble, and much exhausted; had subsultus, muttering, great incoherence, and cold and clammy extremities. A drachm of chloroform, diluted with water, was given, and repeated twice at intervals of four hours. An hour after the third dose he fell asleep, and remained so for ten hours. After this, he daily improved, and was discharged convalescent on the fifth day. No medicine beyond the three doses of chloroform was employed.

CASE II. J. H., had been treated with sulphuric ether, valerian, and opium; but was in an alarming state of maniacal delirium. A teaspoonful of chloroform was administered in water, and, in an hour after, the same quantity, with some compound spirits of sulphuric ether and tincture of valerian. Fifteen minutes after, the patient fell asleep, and slept soundly for three and a half hours. In the meantime, his extremities became warm, and his pulse calmer, fuller, and firmer. He awoke much refreshed and quite rational. The dose of chloroform was repeated several times, with good effect; and the patient in a few days was restored to his usual health.

ON GOÎTRE IN NEW GRENADA. BY THOMAS M. FOOTE, M.D.

Dr. FOOTE mentions a case in which a Newfoundland bitch was affected with goître; a litter of puppies, produced while she was in this state, were idiotic, while her offspring, after she had been cured, possessed the proper qualities of the breed.

Goître is very frequent in New Grenada, and appears referable to unnu-

trititious and insufficient food, and sleeping in close, ill-ventilated rooms. It is mostly confined to the lower orders. Dr. Foote had heard of cures being produced by the use of a balsam gathered from a forest in the mountains, on the confines of Equador and Perre. It resembled crude beeswax; was slightly aromatic, with a rather pungent taste. It became very soft, with a little working in the hand, and was applied externally. The claim of its being a specific was boldly set up.

CASE IN WHICH CHLOROFORMIZATION WAS KEPT UP FOR FOURTEEN DAYS WITHOUT ANY ILL EFFECTS RESULTING.

BY W. H. BYFORD, M.D.

The patient was a young lady, aged 18 years, who was the subject of angular curvature of the spine, from caries of the two upper lumbar vertebræ. She was subject, every few months, to attacks of fever, accompanied with pain in the epigastric region, radiating to the shoulders and down the arms, vomiting, and obstinate constipation. DR. BYFORD saw her during a more severe attack than usual. She was vomiting frequently; had had no alvine evacuation for four days; complained of lancinating pain in the epigastrium, shooting up into the shoulders, down the arms, around the abdomen—in fact, all over the body where supplied with spinal nerves; she had also irregular contractions of the whole voluntary muscular system. Bleeding, cathartics, counter-irritants, morphia, etc., were used without effect. On the eighth day, chloroform was given by inhalation, and produced almost immediate ease, but the pains returned violently as soon as its effects wore off. She was kept almost constantly under its influence for fourteen days; and during that time used thirty-six ounces. The paroxysms gradually wore off, and the patient regained her usual health.

Dr. Byford suggests that, in estimating the influence of chloroform, sufficient attention has not been paid to the *condition of the nervous system*, particularly with regard to the presence or absence of pain or other preternatural excitement, at the time of its administration. Probably it is subject to the same laws as obtain when we use any powerful narcotic in cases of exalted or morbid excitement of the nervous system.

REMARKABLE CASE OF HYDROCEPHALUS. BY H. HINKLEY, M.D.

This was a case of difficult labour from the impaction of a hydrocephalic head in the superior strait of the pelvis. DR. HINKLEY perforated the parietal bone; and, when the fluid was removed, labour was rapidly and favourably terminated. The cranial cavity was capable of containing four pints; and the head measured thirty inches in circumference.

CASE OF EMPHYSEMA OF THE CELLULAR TISSUE OCCURRING DURING LABOUR. BY L. S. JOYNES, M.D.

The case was a patient of the Dublin Lying-in Hospital, in her first confinement. The first stage being tedious, tartar emetic was given to produce relaxation of the cervix uteri. The second stage was more rapid; and, just as the head was beginning to press upon the perinæum, the patient's face and neck began to swell, and she complained of some tightness of breathing. The face, neck, chest, and arms, crepitated on pressure, and the sides of the neck were resonant on percussion; there was some tenderness above the clavicle. She was bled to twenty ounces; and no more effusion took place. Auscultation and percussion of the thorax revealed nothing abnormal. The patient recovered favourably.

Dr. Charles Johnson, formerly Master of the Dublin Lying-in Hospital, has never seen a fatal case of this kind: but he always bleeds in such cases, to guard against inflammation of the lungs. He believes that there is some rupture at the root of the lungs, allowing the escape of air.

REPORTS OF SOCIETIES.

SURGICAL SOCIETY OF IRELAND.

DECEMBER 20, 1851.

MR. TRANT IN THE CHAIR.

SOME PRACTICAL OBSERVATIONS ON PELVIC ABSCESSSES. BY FLEETWOOD CHURCHILL, M.D. DR. CHURCHILL has observed pelvic abscess to occur under various circumstances. 1. It may occur, not only unconnected with parturition, but in unmarried persons at different ages, and independent of all the ordinary irritants of the uterine organs. 2. It sometimes occurs in married women who never had had children. 3. In a few cases, it is a secondary complication of severe uterine irritation, apparently from the use of local irritants, the uterine sound, the pronged pessary, etc. 4. Sometimes it follows a smart attack of ephemeral fever. 5. It not unfrequently complicates or terminates an attack of simple hysteritis, ending most generally in suppuration. 6. In certain epidemics of puerperal fever, inflammation of the uterine appendages appears as a special variety, with or without a corresponding affection of the uterus. It is not unlikely that the disease may occur under other circumstances.

PATHOLOGY. The disease is a phlegmonoid inflammation; but the cases may be divided into two classes, as regards their locality. 1. The first and largest exhibits a tumour just above the brim of the pelvis, and closely connected with it, immoveable, extending downwards internally outside the vagina, through the sides of which it can be felt. 2. In the second class, the tumour is distinct from the pelvis, rounded, and quite moveable. In the latter cases, the inflammation appears limited to the ovary, broad ligament, and Fallopian tube. In the former, the soft parts which line the anterior and lateral wall of the pelvis are also involved; these are more properly named pelvic abscesses.

CAUSES. 1. In certain cases, the abscess is undoubtedly the result of mechanical injury. 2. In others, there would appear to be a metastasis of inflammation from the uterus. 3. In a third class, especially when the patient is unmarried, it seems attributable to cold. 4. Lastly, in puerperal epidemics, the uterine appendages generally share in the disease, though much more remarkably in some epidemics than in others.

SYMPTOMS. The disease generally, but not always, commences by a febrile attack. There may be a rigor, followed by heat, or this may be absent. Sooner or later, the patient complains of pain or uneasiness in the lower part of the abdomen: the amount of suffering varies.

If we examine the abdomen, we either find a tumour just above Poupart's ligament, of varying size and thickness, and firmly fixed to the pelvis; or a moveable tumour, rounded, firm, and elastic, lying above the pelvis in the abdomen. In the former class, a vaginal examination adds nothing to our information; but in the latter, we can trace it extending down into the pelvis, adding a lateral thickness, extremely tender on pressure. Generally, the uterus is pushed a little to one side, is not tender on pressure, but moving it gives pain. In one or two cases, the uterus has been fixed and nearly immoveable.

In the former class, the movements of the leg of the diseased side are affected; the patient cannot stretch it out without great pain, nor can she walk or stand up without bending forward. In the latter cases, the movements of the limb are quite unaffected.

The tumour is always tender on pressure. When it attains a considerable

size, or is attended with much irritation, the bladder and rectum are sometimes sympathetically affected; the former more frequently so.

In some cases, the affection has a purely local character, with little or no constitutional disturbance. In other cases, the local suffering is very considerable and unceasing; the pulse very quick, at least 120, with sweating at night; utter loss of appetite; irregularity of bowels; no sleep, and great emaciation. The cases which occur during an epidemic of puerperal fever will present its general characters, in addition to the local symptoms.

TERMINATION. The disease runs its course not quickly; often, on the contrary, very slowly. The disease may terminate either by resolution or suppuration. 1. By resolution: mostly when the tumour is free, with little constitutional disturbance. In such cases, the tumour may increase to a certain degree; it then remains pretty stationary, often for a considerable time, after which it gradually and slowly subsides. If the patient be imprudent during this process, the morbid action may be re-excited, and the case may terminate in another manner. 2. In the majority of cases, the tumour suppurates, and after absorption of the intervening tissues, terminates by evacuation of the purulent matter; generally, though not always, with rigors. *a.* In some cases it has been evacuated into the peritoneum, giving rise to peritonitis; but this must be very rare. *b.* Cases are on record in which the abscess opened into the bladder. *c.* The tumour may soften at its lower part, and the matter may find its way through the coats of the vagina, and be discharged through that canal. *d.* The most common situation, for a spontaneous opening, is into the rectum, and then the matter will be discharged with the stools. On this account, when the tumour is observed to be softer, and we have reason to suspect that matter is formed, the alvine evacuations should be carefully examined. Except when the matter escapes into the peritoneum, no degree of pain seems to accompany its evacuation. *e.* In many cases, the tumour approaches the surface gradually, and engages the integuments.

DIAGNOSIS. The pathognomonic symptoms are, the pain in the tumour and down the leg, the impossibility of standing quite upright, or extending the leg completely, and the tumour detected on external and internal examination. 1. From fibrous tumours it is distinguished by its comparatively quick growth, the amount of uneasiness, and the termination. The former increase very slowly, and give rise to few or no symptoms, and, above all, are not common in the uterine appendages. 2. In women of a certain age, the filling up of the pelvic cavity might be supposed to result from cancerous deposition; but here we have no general cancerous diathesis, the uterus is always unaffected, and the occurrence of suppuration or resolution solves the difficulty. 3. That variety of abscess which is unconfined resembles much ovarian enlargements, at first sight; but it differs in this, that it only occurs in connexion with childbirth or miscarriage; and generally the growth is much more rapid.

PROGNOSIS. This is very favourable. Some fatal cases are on record, but they must be very rare, and probably in consequence of secondary peritonitis. The disease is, however, very tedious.

TREATMENT. Whether the attack come on after delivery or independent of it, during the acute stage it will be necessary to apply leeches over the tumour; to repeat these, if required, according to the amount of irritation and the patient's strength, and to follow them by constant poulticing. The bowels should be kept quite free; and small and repeated doses of calomel or blue pill, but not continued so as to affect the gums, are useful. The diet of the patient must be low, and she must be confined to bed.

After we have somewhat subdued the acute inflammation, we must continue the poultices until suppuration is established; if the pulse be quiet, we may allow a little better diet, such as chicken-broth or beef-tea. When suppuration has taken place, if the matter is to be evacuated by the bladder

or intestine, we can only continue the poultices ; but if, on a vaginal examination, we find the tumour soft and the intervening parietes thin, we are to make a puncture with a bistoury into the tumour, first ascertaining the presence of pus by an exploring needle. So long as purulent matter escapes, the poultice may be continued, and occasional pressure made upon the tumour. But if the tumour enlarges above Poupart's ligament, involves the skin, and becomes soft, with a sense of fluctuation, it must be opened freely ; and it will save the patient some suffering if we make an incision reasonably early. When the abscess is opened, we may allow the patient a more generous diet, with wine, etc., and in many cases bark may be given with benefit. If the tumour shows a disposition to resolve itself, it will be advisable by degrees to leave off the poultices, and substitute cotton wool or flannel. In some cases this process is hastened by a small blister applied occasionally, or by painting the part with strong tincture of iodine ; great benefit and improvement have also resulted from warm hip-baths twice or thrice a week.

DROPSICAL DILATATION OF THE LEFT FRONTAL SINUS. PROTRUSION OF THE LEFT EYE DOWNWARDS. BY O'B. BELLINGHAM, M.D. CASE. James McCleary, aged 46, a small farmer, was admitted into St. Vincent's Hospital July 11, 1850. A tumour, about the size of a lemon, measuring nearly five inches transversely, and above three inches from above downwards, occupied the forehead above the root of the nose and the region of the eyebrows, extending from the middle of the right eyebrow to the temporal side of the left, which protruded downwards to the left eyeball, and partly concealed it. The tumour was not painful when handled, and the skin was not discoloured ; the centre and the lower part were soft, and gave the sensation of fluid ; and at the upper part, on each side, a ridge of bone extended along its margin, a short distance upon its walls. The sight of the eye was not impaired ; and he had not suffered pain, except on the left side near its margin. In March 1848, the patient was employed in ploughing, the weather being very harsh, when he caught cold, "a scum came over his eye," and his sight was affected. About two or three months afterwards he perceived a slight swelling above the left eyebrow, which increased gradually in size. In February, 1850, he applied at the Monaghan Infirmary, when about an "eggshell full" of dark fluid was withdrawn by a trocar. In May last it was again tapped with the same result ; and the swelling was considerably reduced upon each occasion.

July 19th, 1850. A transverse incision was made through the integuments in the whole length of the tumour, which were dissected back above and below. An opening was then made into the tumour, and several ounces of a dark-coloured, viscid fluid, very like bile, escaped. The cavity was formed by an expansion of the left frontal sinus. The anterior table of the bone had been entirely absorbed, except at the margin where the hard ridge had been felt. The posterior table of the bone had been also absorbed, and the pulsation of the brain was visible and palpable. The orbital plate of the frontal bone had been likewise absorbed, and the left eye could be felt. The interior presented a smooth, white, and glistening surface, like the dura mater. Only one point in the interior gave out blood, to a small amount ; the incision in the integuments, however, required several ligatures. A dossil of lint was placed upon the bleeding point in the cavity, and the wound was not dressed for some hours, when it was removed ; the edges of the incision were then brought into contact, and retained by the interrupted suture and adhesive plaster.

The fluid resembled bile in appearance and consistence, or the fluid sometimes evacuated from ovarian cysts which have frequently been tapped. On a microscopic examination by Dr. Carte, it was found to contain granular matter, oil, and blood globules (the latter being derived from the wound in the integuments), with a large number of tabular crystals, somewhat resembling cholesterine.

The patient was discharged cured on the 21st of August.

DR. BELLINGHAM had not been able to find any description of an analogous case of disease of the frontal sinus. As the dilatation of the maxillary sinus by the accumulation of its secretion, had been named by Dubois and Boyer, "Dropsy of the Maxillary Sinus," the present case might not inappropriately be regarded as "dropsy of the frontal sinus."

JANUARY 10TH, 1852.

DR. JACOB IN THE CHAIR.

CASE OF ENLARGEMENT OF THE PROSTATE GLAND. THE POSTERIOR EXTREMITY OF THE LEFT LOBE FORMING A REMARKABLE TUMOUR PROJECTING INTO THE BLADDER, AND GIVING RISE TO RETENTION OF URINE; ACCOMPANIED BY HÆMATURIA, AND COMPLICATED WITH FALSE PASSAGE; WITH OBSERVATIONS. BY JOHN H. POWER, M.D.

The nature of this interesting case will be understood from the preceding summary. The false passage was produced by violence used in introducing a catheter, before the patient came under Dr. POWER's notice.

JANUARY 24TH, 1852.

DR. JACOB IN THE CHAIR.

IRREDUCIBLE HERNIA OF THE OMENTUM. BY DR. BANON. An enormous deposit of fat had taken place between the layers of the omentum, so as to render the hernia totally irreducible; in fact, to convert it into a large fatty tumour.

ANATOMY OF THE GENERATIVE ORGANS OF THE HALICHERUS GRISEUS. BY DR. CARTE. This is an interesting contribution to comparative anatomy, being a description of the generative organs of a female seal. The animal, when killed, was pregnant.

ABSCESSSES CONSEQUENT UPON THE BITE OF A CAT. BY DR. BAGOT. A girl five years old was bitten by a cat; three days after, an abscess appeared, which was followed by others at short intervals, attended by rigors and fever, on the forearm and arm. Dr. Bagot believed that the abscesses resulted from the absorption of a poison derived from the bite of this cat. This agreed with a popular opinion common in many parts of Ireland.

ON THE CURATIVE TREATMENT OF ANEURISM OF THE AORTA; WITH CASES. BY DR. O'B. BELLINGHAM. We reproduce such portions of this valuable practical essay, as most plainly set forth the author's mode of treatment.

The indications of treatment in aneurism of the aorta are—

1. To diminish the distending force of the blood from within, by which the further enlargement of the sac will be prevented, and it will be placed under a favourable condition to contract.
2. To endeavour to strengthen the parietes of the sac by favouring the gradual deposition in its interior of the fibrine of the blood which passes through it, by which the risk of its rupture will be diminished.
3. To endeavour to maintain the continued deposition of fibrine in the sac, until it is filled, and no longer permits the entrance of blood.
4. To bring about these results without deteriorating the quality of the blood, or diminishing too much the patient's strength.

The plan of treatment which appears to be best calculated to fulfil the indications in view, is almost essentially dietetic. It consists in limiting the patient, for a given period, to the smallest quantity of fluid possible; in diminishing considerably likewise the solid aliment; in confining the patient at the same time to bed, and endeavouring to maintain the mind in as tranquil a state as possible. Dr. Bellingham is neither an advocate for bleeding or purgatives (except occasionally if required), nor for diuretics or digitalis, or any of the other medicines which have been used in this disease, with the exception of opium, and this only when sleep is prevented by pain.

By confining the patient to the horizontal posture, the circulation is tranquillised, and the heart's action becomes slower. When this is combined with a small quantity of solid nutriment, and a still smaller quantity of liquid, the heart's action will become slower, and the pulse compressible, small, and soft. Its effect upon the blood will be to render this fluid thicker, as the watery portions are excreted by the kidneys and skin. Thus less blood will pass through the aneurismal sac, it will be transmitted with less force, and in a diminished stream, while its quality will be improved; all which circumstances are favourable to the deposition of fibrine in the aneurismal sac; and as the muscles are not exercised, there is no waste of fibrine in supplying them.

The diet constituted an important item in the treatment of aneurism advocated by Albertini and Valsalva, where a very low diet was combined with copious and frequent blood-letting. Some modern writers, likewise, recommend certain restrictions in this particular, but they have been content with general directions under this head. We shall not be able to effect much, unless precise directions as to the exact quantity and kind of food are laid down. Dr. Bellingham would limit the patient to three meals a day, the morning and evening meal to consist of two ounces of liquid, and the same of solid nutriment; the midday meal of from two to four ounces of liquid, with from two to four ounces of solid. The liquid may consist of milk or tea, the solid of bread; and at the midday meal, of bread and meat in equal quantity. No deviation from this dietary should be permitted, and it must be persevered in for a fixed period—six weeks or a month at least; when it may gradually be improved. If the patient is weighed on commencing it, and this done occasionally afterwards, we shall have a guide as to the advisability of continuing it, or of improving it.

This plan of treating aortal aneurism is not proposed on purely theoretical grounds. It is applicable not only to aneurism of the thoracic and abdominal aorta, but to all those cases where the sac springs from a branch of this vessel, and is beyond the reach of surgical interference; as to aneurism of the innominate, of the subclavian, and of the carotid at the root of the neck, as well as to aneurism of the common iliac. Dr. Bellingham has employed it, but for a shorter period, with much advantage, as a preliminary to the application of compression in popliteal aneurism.

In a mode of treatment such as this, success will of course depend in a great measure upon the perseverance with which it is carried out. It is therefore necessary that the patient should be made aware of the dangerous nature of his disease; as he will be more likely to submit cheerfully to the restriction. Indeed, unless he cooperates in carrying out the treatment fully and fairly, it can never be effectually maintained.

It might be objected, that the tendency of so very restricted a diet is to produce a state of anæmia; but this result is scarcely to be feared, unless blood-letting is employed.

Dr. Bellingham relates a case in which this treatment was carried out with great success. We subjoin the state of the patient at the commencement, and at the end of the treatment.

CASE. P. D., aged 50, admitted April 19, 1849. He now suffers principally from pain and cough: the pain commences at a point at the upper part of the right side of the chest, near the sternum, where a pulsation is visible; it darts through the chest to the scapula on the same side, and extends also to the axilla and right arm, sometimes reaching to the fingers, generally not extending below the elbow. He describes this pain as being most severe at night. He complains of pain on pressure over the site of the aneurism; he cannot bear percussion there, and the application of the stethoscope even causes pain; this is likewise much increased by coughing, but particularly by sneezing.

For the last three weeks he has been unable to lie upon the left side; can lie upon the right, but he prefers lying upon the back.

On examination, a pulsation is felt, and seen to the right of the sternum, above and below the junction of the cartilage of the third rib with this bone; no tumour is prominent upon the surface, but the pulsation is well marked. This part is very painful to the touch, and to it particularly the patient refers the pain which he suffers on coughing. On placing the hand on it, the pulsation is felt to be double; on placing one hand upon the sternum and the other upon the right scapula behind, a heaving of the chest is perceived with each ventricular systole.

On auscultation over the aneurism, a loud double sound is audible, which is synchronous with the double impulse, and resembles accurately the double sound of the heart; it diminishes in intensity as we approach the heart; no murmur accompanies either aneurismal sound. The heart's action is strong, and felt over a large surface; the impulse of the apex is lower down than natural, towards the epigastrium; its sounds normal. The pulse 80, regular, having the same strength in both wrists; the inspiration is bronchial over the site of the aneurism; the expiration not altered.

June 28. The patient has been up now for some days; he feels weak, but makes no complaint of pain or uneasiness; the pulse is 80, and small in the sitting posture; the carotids are observed, and felt to pulsate strongly; slight jugular pulsation is observed above the clavicles; no pulsation is visible to the eye at the site of the aneurism, but a slight movement is perceptible in that part of the chest when the hand or stethoscope is laid on it, but is unlike that of an aneurism. On auscultation, the double sound is well marked over the seat of the aneurism; no bruit accompanies the first sound, but a slight bruit is audible at one point with the second sound.

He was soon discharged from the hospital; and, when seen by Dr. Bellingham recently, he had continued in a satisfactory state, and had been able to follow his employment as a shoemaker from the time of his dismissal.

The following are the CONCLUSIONS with which Dr. Bellingham sums up his paper.

1st. Aneurism of the aorta is not necessarily an incurable disease.

2ndly. It appears to be more amenable to curative treatment than is ordinarily supposed.

3rdly. Treatment ought always to be especially directed to this object.

4thly. When a spontaneous cure occurs, it is always by the gradual deposition of the fibrine of the blood in layers within the aneurismal sac until it is filled up.

5thly. If we hope to succeed in effecting a cure, it must be by imitating the mode in which Nature brings this about.

6thly. In order to favour the gradual deposition of fibrine, we should aim at diminishing the mass of blood, and lessening the strength and rapidity of the current through the aneurismal sac.

7thly. This can only be indirectly accomplished by acting upon the general circulation.

8thly. Neither bleeding, purgatives, diuretics, digitalis, nor the various other remedies which have been employed in this disease, can be depended upon for producing these effects.

9thly. An extremely restricted diet, particularly in fluids, continued for a certain time, appears to have the effect of rendering the pulse small, compressible, and slow, and at the same time diminishing the mass of blood.

10thly. The cases related afford evidence that these results may be brought about by treatment conducted upon the foregoing plan.

11thly. This method of treatment, to prove effectual, must be steadily and perseveringly carried out, and must be continued until a decided impression is made upon the disease.

12thly. It is adapted not only to aneurism of the thoracic and abdominal aorta, but to aneurism in any of the immediate branches of these vessels. And if employed as a preliminary to compression, pain will be diminished, and the duration of the treatment considerably abridged.

FEBRUARY 7, 1852.

DR. JACOB IN THE CHAIR.

PERFORATION OF THE LARGE INTESTINE. By JOLLIFFE TUFNELL, Esq. MR. TUFNELL detailed a case of enteritis consequent on the swallowing of a foreign body—a portion of the pinion-feather of a turkey—terminating in peritonitis and death, from perforation of the large intestine, three inches above the *caput cæcum coli*.

CASE OF STRANGULATED INGUINAL HERNIA. By CHARLES TRENERRY, Esq., M.R.C.S.Eng. The patient was a Spanish girl at Gibraltar, aged 15, who suffered from inguinal hernia. The symptoms were those of strangulation, and the hernia could not be reduced either before or after the operation; yet it receded spontaneously six days after this was performed. On the preceding evening, she voided a *musket bullet*, which she said she had taken ten days before by the advice of a friend. Quicksilver had been given in large doses. The hernia had existed for twelve months, and was increased at each menstrual period. She was discharged quite well.

ON THE ORIGIN OF DISEASES. By HENRY KENNEDY, A.B., M.B. Dr. H. KENNEDY endeavours to show that acute specific diseases, avowedly contagious, are generated within the system itself. If it be granted that one contagious and specific disease—typhus fever—may be generated in this way, he cannot see what difficulty there exists in supposing that other and analogous diseases may be generated in the same way.

ON SUDDEN DEATH IN THE PUERPERAL STATE. By ALFRED H. M'CLINTOCK, M.D. In this paper, Dr. M'CLINTOCK commented on two of the causes which cause sudden death in puerperal females—syncopal attacks, and the entrance of air into the uterine veins.

SYNCOPE AND IDIOPATHIC ASPHYXIA. In the first volume of the *Medico-Chirurgical Transactions*, was published a paper by M. Chevallier on death from what he terms *asphyxia idiopathica*, but which is regarded by Dr. M'Clintock as a form of syncope. Cases have been observed also by Professor Beatty, and by Mr. Barker, of Dublin. Idiopathic asphyxia causes death almost instantaneously, or in a few minutes, or sometimes not for an hour and a half. The symptoms are those of fainting merely; and the only appearance in the dead body is flaccidity of the heart, with an unusual or total want of blood in its cavities. With regard to the causes which may produce this catastrophe, Dr. M'Clintock observes that, if we look upon the idiopathic asphyxia of M. Chevallier as merely a form of syncope, the liability of its invading a woman in childbed becomes more apparent, from the state in which her constitution is left by parturition—a state of which the prominent characteristics are, an unusual proclivity to diseased action—an excitable condition of the vascular, and a morbid susceptibility of the nervous system. The shock of labour is not recovered from for many days, and during this period the *vis vitæ* is minus: hence any severe impression, whether affecting the mind or body, is not met by the same vital resistance as at other times. There need be little hesitation in concluding that many cases of sudden death in the puerperal state are to be ascribed to idiopathic asphyxia, or fatal syncope. Under the head of *Dystocia Syncopalis*, Dr. Merriman relates a case in which a young woman died suddenly on the third day after delivery. She had taken some aperient medicine, and had risen to relieve herself. Protracted pain also exhausts the principle of life; and in this way it is attempted, by Mr. Travers and others, to explain some of the anomalous cases of sudden death after delivery. Again, in a large proportion of the cases where the state of prostration or collapse has manifested itself, there has existed for some time previously a strong mental impression of disaster, which must have contributed materially to the fatal result. That a lengthened occupation of the mind by one dominant gloomy idea should depress the vital energies, is a fact of which every physician is fully aware, and of which there are innumerable examples.

ENTRANCE OF AIR INTO THE UTERINE VEINS. In treating of this subject, Dr. M'Clintock availed himself of the paper published by Dr. Cormack at p. 941 of this JOURNAL for October 1850. The experiments and reasoning therein contained, together with subsequent observations, justify the following conclusions—1st, that the admission of a certain quantity of air into the current of the circulation is capable of destroying life almost instantaneously—a fact which the records of surgical practice fully corroborate; 2ndly, that the possibility of air occasionally finding an entrance into the vascular system through the uterine vessels, seems highly probable; and, 3rdly, that in some few instances of sudden death soon after delivery, the only cause for the catastrophe which a minute inspection of the body could discover, was the existence of air-bubbles in the heart and vena cava.

Dr. M'Clintock insisted on the absolute importance of making special examination for the presence of air in the veins in all cases of sudden death after parturition. Attention should be chiefly directed to the heart and the vena cava. If air exist in the latter, it will probably be discoverable through its coats; the heart should be first taken out, the great vessels leading to and from it having been tied, and the right auricle and ventricle should be carefully opened under water.

JANUARY 21.

DR. JACOB IN THE CHAIR.

FRACTURE OF THE SPINE. HYPERTROPHY OF THE BLADDER CAUSED (?) BY LONG-CONTINUED DISEASE OF THE SPINAL CORD. BY PROFESSOR HARGRAVE. R. D—, aged 36, sailor, admitted into the City of Dublin Hospital, under the care of Dr. Hargrave, on November 3, 1851.

About half an hour previous to his admission, a ten-ton boat which he had been assisting to raise slipped, and fell on the back of his neck whilst leaning forward, thus forcibly pressing him forwards and downwards. He was kept in this position nearly two minutes before he could be extricated. When admitted, he was in a partial state of collapse, the extremities being cold, face pallid. There was an acute angular projection posteriorly of about the ninth or tenth dorsal vertebra, evidently produced by fracture. There was very extensive ecchymosis over the middle dorsal vertebrae, and considerable irregularity of the spinous processes, both above and below the fracture, the line or curve of this irregularity deviating to the right side. There was complete paraplegia, loss of motor and of sensitive power, retention of urine, and on drawing it off with the catheter (which had to be done throughout the whole progress of the case), he did not feel the passage of the instrument. He lingered till the 6th December, when he died, having had bed-sores, and fetid muco-purulent urine.

At the necropsy, there was found to be fracture of the body and transverse process of one of the last dorsal vertebrae. The cord was bent at an acute angle over the fractured bone, and broken across. The cauda equina was ruptured, and the marrow softened. There was effusion of blood between the cord and its theca, and between the latter and the bone. There were small pellicles of an osseous nature, six or seven in number, and somewhat larger than a pin's head, but flat and thin, lying on the surface of the cord between it and its membranes. The left kidney was perfectly healthy. The right kidney was enormously enlarged, and disorganised, the only part not diseased being a small portion at its inferior extremity. The urine found in both kidneys gave an acid reaction with litmus paper. The bladder sacculated and marked on its internal surface, by a number of muscular bands. Its parietes were in some places about an inch thick. Throughout its thickened structure there were depositions of round, apparently fatty bodies. The neck of the bladder was filled with a collection of lateritious substance, like mortar. The urine in the bladder was highly alkaline or ammoniacal.

Dr. Hargrave referred the increase of the muscular fibres to the chronic disease in the spinal cord close to the cauda equina.

TOPICS OF THE DAY.

London, April 27, 1852.

THE PROPOSED MEDICAL REFORM BILL. The turn of events in the political world, which has followed on the change of ministry, has postponed for a time the active operations for passing this Bill into law. The difficulties of the Government naturally render them averse to any undertaking which is not necessary at the moment; while the declared intentions of the opposition not to suffer the session to be prolonged after the routine business has been got through, make the success of the measure, if introduced, still more hopeless. Moreover, as there is every probability of an autumn session, it is not undesirable that the presentation of the Bill to Parliament should be deferred for the present; since such a course will enable the Provincial Medical and Surgical Association to express their opinion in its favour, as a collective body, at their anniversary meeting in July. A decided demonstration on their part in support of the measure, and a formal declaration to that effect, would no doubt have much weight with the legislature, and would do much to ensure its passing into law. But though obliged to pause in their resolution to obtain the decision of Parliament on the question, the committee of gentlemen entrusted with the Bill have by no means been idle since we last brought the subject before the notice of our readers. It may not be uninteresting to them to be made aware of the proceedings which the committee have taken.

In the first place, the secretary of that body, Mr. Hastings, obtained some short time since an interview with Mr. Walpole, the present Home Secretary, and laid before him the wishes of the Association with regard to the Bill. Mr. Walpole, while declining to pledge himself in any manner, expressed, we are told, his sincere wish to give his earnest consideration to the subject, and his desire to carry out, as far as possible, the intentions of his predecessor, Sir George Grey. He stated that the subject was a new one to him, and that some time must necessarily elapse before he could give a decided opinion on the subject. Thus, through unavoidable circumstances, after all the labour spent during the last few years in explaining to Sir G. Grey the wants and wishes of the profession, we now again find ourselves in the unfortunate position of having a Home Secretary to whom medical reform is an unknown topic. We are not, however, discouraged by this state of things; for, if the present government should remain in power, we have no doubt that Mr. Walpole's acknowledged talent for business, and his, as we believe, sincere wish to do right in the matter, will enable him to settle this long-agitated question. While, on the other hand, should the present opposition be reinstated in office, we shall probably have, either in Sir James Graham or Sir George Grey, a Home Secretary who is thoroughly conversant with the subject, and pledged to carry out any measure which may have received the sanction of the profession throughout the country. As far, therefore, as Parliament is concerned, we have little doubt as to the ultimate success of the Bill.

The committee have also, we understand, been in communication with the Colleges of Physicians and Surgeons: though the negotiation with the former was of a more private nature than the one with the latter.

The College of Physicians are, we feel convinced, very desirous of lending their assistance to any well-considered liberal measure; and we believe ourselves justified in stating that every disposition has been shown on their part to meet the committee upon fair terms. The College object to some portions of the Bill, but—though it is not in our power to state authoritatively what those portions are—we understand that the desired alterations would not interfere in any way with the principle of the measure, and that they will pro-

bably be conceded by the committee. We do not apprehend any difficulty arising between the College of Physicians and the Association, because we feel assured that, whatever differences of opinion may exist as to details, both of these bodies are sincerely desirous of advancing the interests of the profession, and of sinking all other considerations in their exertions for its benefit.

We fear,—if report say true,—that the same liberal spirit has not been manifested by the College of Surgeons. We understand, and the tone adopted by the recognised organ of the Association helps to confirm the belief, that the advances of the committee were received by the College in anything but a conciliatory spirit—in a spirit, we are told, of carping triviality, which savoured more of a petty jealousy against the originators of the measure, than of any well-grounded objections against the Bill. Now, if this be so, it is much to be lamented for the sake of the profession, for it shows that the interested feelings which so long stood in the way of medical reform are not yet, as we had hoped, extinct among us. But we are also quite sure that any factious opposition will recoil upon the College itself. It cannot be forgotten that a large proportion of the members of the Association, who have given their emphatic support to the Bill, are members of the College of Surgeons, and that a very strong feeling has been manifested throughout the kingdom that the interests of the provincial surgeons have been neglected in their recent charter. Now the day has gone by when Parliament would legislate for the benefit of cliques or close corporations; and in what other light could the Council of the College of Surgeons be considered by the legislature if they came forward to oppose a Bill which was supported by the great body of their own members? We sincerely trust that the College may not put itself in antagonism with the Association upon this question; but if it do so, it is not difficult to foresee which will be the successful party in the struggle.

Since the appearance of our March number, the committee have received the most gratifying expressions of concurrence and support from the different branches of the Association. In one instance, the opinions of the different members of the branch were sent *seriatim* by their secretary, and have been published in the *Provincial Journal*. With only two exceptions they assented to the Bill, with some suggestions as to details. We believe that this instance may be taken as a fair sample of the feeling of the profession throughout the provinces on the subject. The support given to the measure is singularly unanimous, but a good many alterations are desired in the various clauses. We think that these suggestions are an additional proof of the general cordiality felt towards the Bill; for as the very men who make them signify their support on the whole to the measure, it is evident that they are too much in earnest to allow any lesser objections to interfere with their general approval. The committee have, however, resolved to take all the suggested improvements into their candid consideration, and to modify the Bill in accordance with what may appear to them to be the general wish of the body they represent. The Bill will then be emphatically the measure of the Association; as such it will be forwarded to the Home Office, and as such it will be laid on the table of the House of Commons. When we consider the wide and powerful influence which the Medical and Surgical Association can exert, and the advantages which it possesses in speaking the voice of the profession, and not of any mere corporate body, we feel sanguine that their measure will pass into law.

THE PHARMACY BILL is at present before the Select Committee of the House of Commons; and from the names of some of the witnesses whom we have heard have been summoned before them, it seems certain that the impropriety and injustice of this proposed measure, in the present state of the medical profession, will be so correctly explained, as to make it impossible for Parliament to sanction it,—or, indeed, any Pharmacy Bill,—till a liberal and comprehensive scheme of medical reform has been sanctioned. In con-

sequence of our remarks at p. 398 of last number, we have received numerous letters upon this subject, all of which have met with attention, and been usefully applied. We invite other friends (in confidence) to favour us with their views.

COLLEGE OF PHYSICIANS AND ITS PROPOSED NEW CHARTER. We were greatly misled by the *Lancet*, as to the views and wishes of the College of Physicians. The draught charter now before us, is liberal and conciliatory in the highest degree. Some details are perhaps objectionable; but the spirit is good. We will give in our next the substance of this important document, reprinting its chief clauses.

OBITUARY.

MUSGRAVE, Anthony, M.D., at his residence, Antigua, suddenly, of disease of the heart, on 24th February, 1852.

Dr. Musgrave was a descendant of a family long established in Antigua, where he was born in November 1793. He received his classical education under Dr. Shaw, at Edmonton, and proceeded, in 1811, to Edinburgh for his professional education, becoming a house-pupil of the late Dr. John Thomson. In the Royal Medical Society he displayed great argumentative power and eloquence, and was one of the Annual Presidents, with Dr. John Davey, Dr. Richard Bright, and Dr. Thomas H. Burder. In June 1814, he received his degree of Doctor of Medicine. In 1815, he rejoined his eldest brother, Mr. William Musgrave, then a rising barrister at the Antigua bar; and he entered into partnership with Dr. M. H. Daniell. In the following year, he had a large field for exhibiting his professional zeal, in combating the fearful epidemic of yellow fever, which broke out in the month of June; and of which he recorded a history in the *Medico-Chirurgical Transactions* of London.

Dr. Musgrave was elected a Member of the Antigua House of Assembly in 1817, and the records of the Assembly bear testimony to the great zeal and talent which he exhibited as a writer in the public service, every document of importance, for a series of years, having been prepared either by Dr. Musgrave or by the Speaker himself.

In the year 1820, Dr. Musgrave married. In 1824, feeling the first symptoms of affection of the heart, and sensible of the necessity of some assistance in his arduous professional labours, he entered into partnership with the late Dr. Robert Crichton, Dr. Daniell having at this period retired from practice. In the course of the same year, he was appointed Treasurer of the island, which office he ably filled until his decease.

He was a strong advocate for blood-letting in the early stage of tropical fevers, all of which, whether intermittent, remittent, or the graver form of yellow fever, he considered as varieties of the same genus, and proceeding from the same cause; namely, exalations from the surface of the earth, under the influence of a high degree of solar heat. He was also strongly opposed to the opinion of the contagious nature of these fevers, under any circumstances; and he was provoked, by a criticism of Sir Gilbert Blane, in his paper in vol. ix of the *Medico-Chirurgical Transactions*, to enter into a contest with that advocate of contagion. These papers are contained in the *extra limites* department of one of the early volumes of the *Medico-Chirurgical Review*. He also published some papers upon Colic in the *Medical Repository* for 1825, as well as subsequently in the *Medical Gazette*. During a visit to Edinburgh in 1826-27, finding that strong prejudices were entertained by many of his friends against the use of mercury, he published a valuable paper on that subject in the *Edinburgh Medical and Surgical Journal* for that period.

As a physician, Dr. Musgrave endeared himself to his patients by his polished manners, his gentle sympathy, and his unremitting attention; while, as a legislator, his high integrity, ability, and efficient discharge of duty, made him respected by every one. Truth was his motto, honesty his policy, affection his failing. Those who knew him intimately esteemed and loved him for his pre-eminence in the private character of husband, father, brother, and friend. He leaves a widow and large family to deplore his loss. [*Abridged from the Med. Times and Gazette.*]

SPITTAL, Robert, M.D., Physician Extr. to the Queen in Scotland, etc., etc., at his residence, 3, London Street, Edinburgh, on the 7th April, 1852, aged 48.

On the 4th of December last, Dr. Spittal dined with the College of Physicians of Edinburgh, and seemed well and in excellent spirits. He was out as usual on the 5th and 6th; but on the morning of the 7th, he sent for his brother-in-law, Dr. Taylor. He informed Dr. Taylor that he had awoke about two in the morning with a sense of constriction about the larynx, which caused difficulty of breathing, and forced him to sit up in bed. On examining his chest, Dr. Taylor was very much shocked to find no pulmonary symptoms, but considerable precordial dullness with increased impulse of the heart. There was no bruit, but the second sound was prolonged, and converted into a peculiar metallic noise. This was distinctly heard along the course of the aorta, anteriorly and posteriorly. The laryngeal symptoms soon disappeared, and those peculiar to the heart increased. Latterly, there was œdema of the face and ankles; and the urine became coagulable.

After death, the heart was found to be enlarged, the left ventricle being considerably dilated and somewhat hypertrophied; the valves were quite healthy; both coronary arteries were completely ossified. The aorta was slightly dilated, more especially at the arch; the interior coat was covered with atheromatous deposit, giving a rigid character to the vessel. The left kidney shewed the commencement of Bright's disease; the right was entirely destroyed by strumous degeneration.

We have given these sad details, because we know that they will deeply interest a large and wide-spread circle of professional friends, by whom Dr. Spittal was loved as a friend, respected as a man, and esteemed as a physician. Dr. Spittal was fond of social intercourse: and was a most delightful companion.

At a very early period of life Dr. Spittal showed a strong liking for subjects connected with natural history. As a boy, he was continually gathering stones on Arthur's Seat, digging up weeds, and preserving plants; and in his graver and maturer years, he derived much pleasure from tending some favourite birds and plants. Dr. Spittal was originally destined by his father (the late Sir James Spittal) for a mercantile career, and with this in view he spent two years in a London house. Bad health caused him to return home to Edinburgh; and in 1825 or 1826 he commenced his medical studies, being at the same time apprenticed to Liston.

In 1828, he gained the Botany Class Gold Medal for the best Essay on Diseases of Plants; and in 1832, a Silver Medal was presented to him for an Essay on the same subject, by the Horticultural Society of London. In 1830, he gained the Harveian Medal; and his prize essay was afterwards published as a Treatise on Auscultation. We understand that he has left behind him an entirely rewritten edition of this valuable work, which he had evidently intended to have soon given to the world. In 1831, he went, in company with Dr. Taylor, to Paris; and on his return to Edinburgh, in 1832, he commenced practice as a physician. He filled various important professional appointments, including that of Physician to the Royal Infirmary, which, however, he resigned, from the rules of the establishment preventing him from deriving adequate professional advantages from the toils and dangers of his office.

Dr. Spittal was liberal in his politics; and in thinking and acting he was always independent, honest, and bold. Notwithstanding his frequently differing in opinion, in the College of Physicians, and elsewhere, from his professional brethren, he had so much gentleness of manner, so much gentlemanly feeling, and such obvious sincerity, that he never made enemies by his opposition. He was a great abhorrer of, but not an acrimonious militant against, quackery. It is worth recording, that the impious sermon of Mr. Everest, so useful at Brighton in opening the eyes of the profession to the real nature of the homœopathic crusade against the profession, was first introduced by Dr. Spittal to the notice of the gentleman who there quoted it, when the deceased visited London during the period of the Great Exhibition. He wished the production to be reviewed; but it was turned to better account. Dr. Spittal has left a widow and a numerous circle of attached relatives and friends to mourn his premature departure.

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ORIGINAL COMMUNICATIONS.

ON PYELITIS.

By WILLIAM COULSON, Surgeon to St. Mary's Hospital, etc.

(Read before the Harveian Society.)

NEPHRITIS, or inflammation of the kidney, was the common term formerly employed to denote inflammation of any and of every one of the dissimilar structures which enter into the composition of this organ. No matter whether the diseased action was limited to the membrane which binds the component parts of the kidney into one, that is, to the capsule; whether it was limited to the kidney proper, that is, to the part in which the process of secretion is effected, or to the membrane that lines the pelvis, the first receptacle of the urine, the disease passed by one name, and Nephritis was the term given to these distinct affections. It is to Rayer that we owe our present definite knowledge on the subject; it was he who gave precision to views of which traces only could be found in the writings of preceding authors. His admirable description, rendered more precise by reference to an atlas of plates, unrivalled for fidelity of delineation and beauty of execution, and illustrated by cases occurring in his own or others' practice, fixed at once the attention of pathologists on the disease. Subsequent labourers, while they have added much to our knowledge of diseases of the kidney, have all agreed that, with respect to the complaint now under consideration, his descriptions and his drawings are unequalled.

Pyelitis is the name now used to signify inflammation of the pelvis and calyces of the kidneys; nephritis to express inflammation of the proper substance of the kidney; perinephritis, of the capsule of this organ.

CAUSES. A common cause of pyelitis is the presence of a foreign body in the cavity of the pelvis of the kidney, and then those attacks of intense pain, known as nephritic colic, are its accompaniment. But while alive to its dependence on renal calculi, we must also bear in mind that it often occurs as a consequence of the extension of inflammatory

action upwards along the ureters from the mucous surface of the bladder, the cystitis itself being sometimes excited by inflammation of the urethra.

But pyelitis may arise as a primary disease. A patient presents himself with a general sense of uneasiness, want of appetite, and a dull uneasy sensation, rather than pain, in the lumbar region. But when firm pressure is made in the loins, then pain is felt. The urine is opalescent when first passed, but on standing, it lets fall a more or less abundant sediment of a dirty or yellowish white colour. Litmus paper shows that the urine has an acid reaction. On inquiry, we learn that the patient has been exposed perhaps to wet and cold shortly before his illness began, or had not voided his urine when a strong desire to pass it had come on, in fact, had painfully checked the desire. Now let us suppose the case mistaken for one of trifling import; that the examination stops at the point we have now reached; after a while the pain in the back becomes more decided, and perhaps limited to one side, the urine becomes more and more turbid, and in the extreme stage a fulness is detected in the lumbar region, and on deep pressure on the exterior surface of the abdomen a fluctuating tumour is discovered, which, if the patient survives long enough, ultimately discharges itself into some of the adjacent viscera, as in the following case, which has been given to me by my colleague, Dr. Handfield Jones.

CASE. J. B., aged 31, complained of pain in the loins and abdomen, pus in the urine, and a rounded tumour on the right side of the abdomen. During an attack of diarrhœa, he passed a calculus about the size of a hazel-nut, consisting of uric acid and oxalate of lime: after this he continued subject to bilious attacks; was seized with pain in the head and limbs, sickness, and severe pain in the abdomen. The right hypochondrium was full, hepatic dulness increased, and cough caused great pain; urine contained a little albumen and pus. He sank exhausted. On examining the body, the lungs and heart were found healthy; slight pleural adhesions on the left side, firm and dense on the right. Kidneys not enlarged, pelvis of right, considerably distended, and contained several calculi; ureters natural. A communication existed between the pelvis of the right kidney and the upper part of the ascending colon, which was itself pushed backward by the liver, greatly enlarged by hydatids.

But supposing, instead of stopping short in his examination of the case, that the surgeon had entered a little further into its investigation, supposing he had placed a little of the urine under the microscope, he would at once have detected the presence of pus, of exudation corpuscles, and of epithelium scales; his attention would have been directed to the probable seat of the disease, and the patient, by well directed treatment, have been relieved in a short time.

Although it is sometimes the consequence of exposure to the ordinary exciting causes of inflammation of other organs, viz., wet and cold, and external injury, as blows on the loins and penetrating wounds, or of extension of inflammatory action of the mucous surface of the bladder, pyelitis is much oftener the result of other causes. Standing far in advance in point of frequency as excitants of pyelitis are foreign bodies in the pelvis of the kidney, and of these renal calculi are by far the most common. Sometimes, however, acephalo-cysts and the strongylus are found to be exciting causes.

Next in order of frequency among the causes of pyelitis is gonorrhœa. The action excited by the application of the specific virus to the mucous membrane of the urethra extends along this canal, producing simple inflammation of the mucous membrane of the bladder, and this inflammation then extends along the ureters, as though it had been primarily excited in the organ referred to.

Obstruction to the flow of urine, whether arising from stricture or any other affection, is a cause of pyelitis. Under this head should be noticed a form of this affection occurring in boys with a nearly closed prepuce, so that the urine is passed only by drops. In a case communicated to me by Dr. Golding Bird, the boy died with coma, preceded by the symptoms of pyelitis. After death, the bladder was found contracted, as in old stricture; the ureters enormously distended; the pelvis of the kidneys dilated, so as to hold more than four ounces of fluid, and their lining membrane presenting all the evidences of severe previous inflammation. The whole urinary apparatus of this boy is now in the museum of Guy's Hospital.

When the blood becomes charged, whether by absorption of the skin, or from the mucous membrane of the lungs or stomach, with certain substances, as turpentine, cantharidine, etc., it frees itself by excreting the irritating matter by the kidneys. The substances just mentioned excite an instant effect on the kidneys, and pyelitis is an occasional consequence. On carefully examining, however, the various cases which have been recorded, as examples of pyelitis produced by the absorption of irritating substances, it appears that nephritis, not pyelitis, is the effect which most ordinarily results. The poisonous substance, in fact, must come in contact with the lining membrane of the uriniferous tubes in the first instance, and these are much more sensitive of any offending cause than the lining membrane of the pelvis.

Another form of pyelitis deserves special mention from the circumstances under which it is apt to occur, and the character it assumes. It usually supervenes after the operation of lithotomy, or is excited by enlargement of the prostate gland. It is a very severe and dangerous form; typhoid symptoms often set in at an early stage, and soon end in stupor. After death, the inner surfaces of the ureters, calyces, and pelvis, are found covered with a grey or dark false membrane infiltrated with blood; and from this latter circumstance the form now alluded to has been called pseudo-membranous. Thus, then, the causes of pyelitis are—

1. Foreign bodies in the kidney.
2. Extension of inflammation by continuity of surface.
3. The ingestion of renal irritants.
4. External injury.
5. The ordinary excitants of internal inflammation.
6. Obstruction to the flow of urine.

Of foreign bodies, the most frequent are calculi; of primary inflammations, gonorrhœa; of renal irritants, the imbibition of the active principle of cantharides.

Pyelitis is almost unknown as a disease of infancy. It is more frequently observed in males than females.

SYMPTOMS. The symptoms of pyelitis are pain in the lumbar region, the character of which is dull and aching, its intensity is never very

great, the severe attack of pain in the loins, nephritic colic as it is called, which sometimes accompanies pyelitis, being due to the presence of foreign bodies, as calculi, and not to the inflammation itself. Slight tenderness exists in the seat of the pain. The urine is acid, as abundant, or nearly so, as in health, and of good specific gravity. When first passed it is opalescent; on standing, a sediment of an uniformly creamy aspect, or consisting of whitish flocculi, or, if much mucus be present, opaque and mucilaginous in consistence is formed; on being boiled or tested with nitric acid, it is found to contain albumen; and, on its being examined with the microscope, pus globules are at once seen.

The inflamed mucous membrane will at first throw off its epithelium, which, under the form of columnar and scaly particles, will be found in the urine, and which has sometimes accumulated to such an amount as to be taken for pus. As the inflammation increases, exudation globules, marked by their large size, spherical shape, and opaque, oily contents, will appear; and, lastly, thin purulent matter will be found mixed with varying quantities of mucus, the former predominating more and more as the inflammation increases in violence. In this case albumen, derived from the liquor puris, will be detected in the urine, which, as Dr. Golding Bird has well assumed, constitutes the only real difference between pus and mucus, the corpuscles in each being identical, but the fluid in which they float being different.

The pus secreted by the lining membrane of the pelvis collects in more or less quantity, and becomes a source of irritation and fresh secretion. The substance of the kidney, compressed between the imperfectly yielding capsule and the purulent fluid accumulated in its pelvis, wastes, the pelvis becomes dilated, the calyces spread out, and, finally, a false abscess is formed by the collection of pus in a preexisting cavity, and yet bound by the walls of that cavity. Inflammation becomes excited around this abscess, lymph poured out, adhesions formed, and when the pus reaches a certain quantity, when the pelvis can no longer dilate, absorption of its walls at one point takes place, and thus the pus finds its way, as in ordinary abscess, either to the nearest point of the surface, or into some neighbouring viscus.

Blood discs are not found in the urine of patients affected with pyelitis, arising from exposure to cold and wet, or extension of inflammation from the bladder; while they are generally present when the inflammation is due to the presence of a calculus.

The general febrile symptoms are occasionally trifling. If the disease is of long duration, then, the continued excretion of pus, or its collection in large quantities, may destroy the health of the patient, and lead to hectic fever. The pain of pyelitis is ordinarily trifling; but not so the pain which accompanies nephritic colic. This pain generally commences more or less suddenly, yet it is sometimes preceded for a few days by an increased sense of weight, and aching in the loins; it is acute and violent, commencing in the region of one kidney; it extends in the course of the ureter to the bladder, and to the rectum, and down the thigh, which, as Chomel remarks, is often stiff and affected with tremors. In males, the testicle of the affected side is powerfully retracted towards the external ring. So severe is the agony, that the patient screams, walks the room, or

stretches himself on the ground, pressing his abdomen with the hands, and contorting himself in every possible way to get ease. The countenance indicates the suffering which the patient experiences; the surface is covered with cold sweat; the pulse is small and feeble. After a while the sufferings are remitted, to be again renewed, perhaps in a few minutes, with if possible increased violence; vomiting occasionally occurs, and is frequently followed by relief to the severity of the symptoms.

While the attack lasts, the urine is scanty, a few drops only being passed at a time, and of a deep red colour. Fits of nephritic colic are induced by sudden exertion, even by hasty movements of the trunk.

I have described the symptoms of this affection, because pyelitis is frequently the consequence of a renal calculus, and the tendency to nephritic colic is favoured by the presence of a calculus; and because a consideration of the treatment of the one, involves the consideration of the treatment of the other.

If, in consequence of more or less perfect occlusion of the ureter, either from thickening of its walls, or from the infraction of a small calculus, accumulation of purulent fluid takes place in the pelvis, the symptoms are pain and weight in the lumbar region, more or less well marked symptoms of hectic, emaciation, night sweats, circumscribed flush on one or both cheeks, and a deep-seated swelling, perceptible in the lumbar region, and from the anterior surface of the abdomen.

The following case, in a recent number of the *Gazette Médicale* (1851, p. 352), is a good illustration of this form of the complaint:—

CASE. A young woman, aged 18, by occupation a laundress, was taken into La Charité the 10th of March, 1851, under the care of M. Briquet, and died on the 20th of the same month. She had been seriously ill only three weeks, but had suffered occasionally from rather acute pains in the kidneys for three or four months. There was, however, nothing in her history which appeared to indicate that she had been suffering from nephritic colic; and she declared that she had never passed calculi or gravel in her urine. When she entered the hospital, she had slight fever, with exacerbation in the evening, shiverings, and pain in the loins, increased by pressure on percussion, and which extended throughout the region of the right kidney. Percussion in the lumbar region shewed that both kidneys were increased in size, but that the right was sensibly larger than the left. Five or six days before her admission, she passed a large quantity of blood with her urine, this being the first time that she had suffered from hæmaturia. After this discharge of blood, the urine, which continued natural in quantity, became thick and foetid, so foetid, indeed, that it emitted a gangrenous odour, especially shortly before death.

On standing, the urine deposited a purulent precipitate; but the superabundant portion did not become at all more transparent, and it yielded a copious precipitate on the addition of nitric acid. During the last two days, the tongue and skin became dry, and the latter of a lead colour; and low delirium, with all the symptoms of a severe typhoid condition, were present. The patient never had any vomiting.

The treatment consisted principally in the application of cauteries, according to the plan of Mayor, over the region of the right kidney.

On examination of the body after death, both kidneys were found

to be nearly double their natural size. This increase was occasioned by the pelvis of each kidney being distended with foetid pus. The walls of the pelvis were covered with a greenish sort of false membrane, and presented points of ulceration having a gangrenous odour. The renal substance itself was thin and compressed, but not otherwise altered. At the point where each ureter joined the pelvis, a calculus was found about the size of a bean; and a third calculus, as large as a good-sized pea, was found bathed in the midst of the pus contained in the left pelvis. The ureters were double their ordinary size, and their walls were thickened; they were also nodulated, and presented here and there sacculated dilatations. The vesical mucous membrane was thickened, of brown or violet hue, especially at the centre of the base of the bladder. The three calculi which have been mentioned, were the only ones which were found in the genito-urinary organs.

If the stone arrested in the kidney is of a size or figure which impedes its entrance into the pelvis or ureter, abscesses sometimes form to such an extent, as to destroy the whole of this viscus, and inundate the surrounding cellular tissue.

Most frequently, however, the existence of matter can only be a matter of surmise; from the signs and symptoms of the inflammation, followed by a remission, but of short duration; from the return of the pains, shivering, and irregular accessions of fever; and often, also, from a doughy swelling of the integuments of the abscess, although the colour of the skin is not changed. The surgeon ought, in such cases, to recall to his mind all the different circumstances which have preceded or accompanied this stage of the disease.

If, then, the patient has had one or more attacks of nephritis, more or less strong and frequent; if he has had total suppression, or simply diminution in the quantity of urine; if he has experienced some pain in making water; if he has passed blood, mucus, pus, even gravel or sand; or if he has found in his urine a mucous sediment, thick, reddish, and purulent; if in these intervals he has experienced tension, weight, or pains, whether dull and wandering, or severe and pulsating, or burning in the lumbar region, immediately under the last false rib, near the spine; if on pressing firmly on the part, the pain, which most frequently extends to the groins and testicles, is increased; if these signs exist, the existence of matter may be more than suspected.

Nevertheless, it ought to be observed that, in cases even of abscess of the kidney, the stone may no longer obstruct the flow of urine, because it may subside into the cavity of the abscess itself, and the passage of the urine will be free. Hence retention of the urine will not be, under these circumstances, an indication for surgical interference; the true indication must be the abscess itself. We must, however, be well assured of the existence of an abscess, before proceeding to make an opening. If an opening be made, the incision should be directed more towards the inferior than the upper part of the loins, so as to open the most depending part of the abscess, and to avoid coming in contact with the false ribs which embrace the kidney towards its top. These abscesses have sometimes two distinct situations; one in the interior of the kidney; the other externally, in the surrounding cellular tissue.

It is a matter of doubt whether one or both kidneys are more frequently attacked at the same time: if only one is attacked, it is, as far

as my experience goes, the left. M. Civiale, however, is of opinion that both kidneys are generally affected at the same time, though in different degrees, one being more severely attacked than the other. When one kidney alone suffers, he agrees with me in thinking that it is commonly the left. M. Rayer's experience does not enable him to decide this point one way or the other; nor does he think that the proofs relative to the more frequent attacks of the left kidney are at all decisive. It appears certain that, in those forms of pyelitis which are consequent on injuries of the urethra or bladder, both kidneys usually suffer. The following is an interesting case of pyelitis in both organs.

CASE. A young girl, about twenty-three years old, was admitted into the Hôtel Dieu, January 12th. For two years and a half, she had been suffering from a complaint which commenced by micturition of blood, accompanied by fixed and acute pains in the lumbar regions. Shortly after, her urine became turbid, and at length purulent; she passed it frequently, and in small quantity. After eighteen months, however, repeated applications of leeches to the region of the kidneys having been made, the patient appeared to improve; the renal pains became converted into a dense weight, constant, but not intolerable. The urine, however, never ceased to furnish a puriform deposit, but unmingled with any calculous matter. Such was her condition up to three weeks before admission, when, having taken cold, the menses became suddenly suppressed. Alarming symptoms soon manifested themselves; and when she came to the hospital, the patient presented the following symptoms: Countenance altered; eyes sunken; general abdominal pain, increased by pressure, but most severe in each lumbar region; thirst; nausea; urine purulent, voided in small quantities, and with difficulty; pulse frequent.

In spite of the means employed, the symptoms increased in severity. On the fifth day, the vomiting continued; the pulse could scarcely be felt; the limbs were cold; and, on the morning of the sixth, the patient died.

On examination, the urinary organs alone were found diseased. On cutting through the kidneys, the knife was repeatedly arrested by numerous calculi, imbedded in their substance, and surrounded by small quantities of pus. The left kidney contained nine, and the right fifteen calculi, all surrounded by pus, and enclosed in cavities lined by a mucous membrane of a deep red colour. These cavities were dilatations of the calyces and their branches. The calculi were various in form, all contiguous, and of a branched kind, radiating from a centre, where the several calculi were opposed to each other in various ways. Their colour was white or yellowish, and they consisted of uric acid and the ammoniac-magnesian phosphate. The remainder of the kidneys was compressed and small, but little altered; the ureters were of a mottled black, and their mucous membrane was thick. The bladder was columnar, and its mucous membrane was thick, and uniformly of a dark red colour. It contained a small quantity of thick puriform fluid, but no stone.

The chief characteristic signs of pyelitis are pain over the region of the kidney, and the presence of purulent matter or pus globules in the urine.

Calculus pyelitis is the most frequent form of the disease, and from its exciting cause, viz., the presence of a stone in the kidney, it might at first sight appear that such an affection must be attended by an assemblage of symptoms which would leave no doubt as to its existence. Yet such is not the case. Sometimes the patient exhibits no symptoms whatever of permanent disorder of the kidneys, at other times the structure and functions of the kidneys are considerably modified, yet the symptoms do not manifest themselves in any appreciable manner until immediately after the performance of some operation on the urinary organs. M. Civiale relates a remarkable case of acute pyelitis in a man 55 years of age, whom he proposed to lithotritise, if on sounding he detected a stone, but fortunately he had not sounded him. The attack came on suddenly, without any apparent cause, and the only symptom of the pyelitis was great prostration of strength, which supervened two days previous to death. The pelvis and ureters were filled with pus, and a small calculus was contained in one of the kidneys. These and other analogous cases, however, only show that diseases of the kidney may exist for a long time without giving rise to any striking symptoms, and such cases it is of course impossible to recognise.

DIAGNOSTIC SIGNS. The characteristic symptoms of pyelitis, as I have observed, are pain in the region of the kidney, and the discharge of purulent urine. The relative value of these two signs must be carefully ascertained, for neither of them taken separately can afford any just ground for supposing the kidney to be the seat of disease.

The lumbar pains of calculous pyelitis are far from being constant. It is also a point of great importance to remember that the bladder may be the seat of sympathetic pain, while none is experienced over the region of the kidneys. Indeed, it may be laid down as a general law, that all the symptoms commonly attributed to disease of the kidneys, may arise from the presence of a calculus in some other part of the urinary apparatus, the kidneys themselves being perfectly sound.

The pain in the region of the loins may be produced by other diseases, from which it is necessary to distinguish it. Thus, nephritic colic might be mistaken for nephralgia; but the pain of the former is much more severe, can often be traced downwards along the ureter, and ceases after the passage of the calculus into the bladder. In lumbago, the pain extends to both sides of the lumbar region, and is greatly aggravated by motion, whereas the pain is very seldom felt in both lumbar regions in calculous pyelitis.

The diseases with which acute pyelitis are most likely to be confounded are pyelo-nephritis, acute nephritis, and perinephritis. Whenever the inflammation of the pelvis is severe, it almost always extends to the uriniferous tubes and substance of the kidney, and then the symptoms of the two diseases become confounded together. The pain of acute nephritis is so perfectly similar, both in seat and character, to that of acute pyelitis, that it affords little assistance as a diagnostic sign. The pain in calculous pyelitis is, however, generally more acute, and apt to occur in paroxysms. In doubtful cases, we must be guided by the presence or absence of pus or mucus in the urine, and especially the existence of a tumour in the lumbar region; but if these signs are

absent, we can only suspect calculous pyelitis whenever lumbar pains are followed by fever occurring in paroxysms, and attended by the usual signs of nephritic colic. If we possessed any certain means of ascertaining that the bladder and urethra were perfectly sound, the presence of pus or mucus in the urine would lead to the inference that they must be derived from the pelvis of the kidney; but we can hardly ever be certain of the non-existence of inflammation in limited points of the urethra or bladder. As for nephritis, it may be concluded with a sufficient degree of certainty, that inflammation has extended to the substance of the kidney, whenever acute pain in the region of that organ is succeeded by frequent vomiting and cerebral or typhoid symptoms. Partial peritonitis of the lumbar region may be mistaken for pyelitis, and this occurs more readily if the bladder be inflamed at the same time, and the urine contains pus.

It is more easy to distinguish chronic pyelitis from chronic nephritis. In the former case, the urine constantly furnishes traces of pus or purulent mucus, and often throws down a purulent deposit. In chronic nephritis, the turbid appearance of the urine generally arises from the phosphates which it holds in solution.

The difficulty of distinguishing diseases of the kidney from other signs, has led practitioners to seek a means of diagnosis in the various conditions of the urine. These are of great utility when rightly interpreted, the only drawback being the nicety of microscopic and chemical examination which is required. And here I would remark, especially in reference to the treatment of calculous disorders, that the practitioner should never undertake any serious operation on the genito-urinary organs, without first having ascertained in a careful manner the condition of the urine. For the diagnosis of renal diseases also, it is necessary to examine the urine several times in the course of the same day; it may vary considerably in the interval of a few hours. Thus, in calculous pyelitis, the urine may be acid at one time and alkaline at another; or it may be strongly charged with pus and blood, and in a few hours afterwards present a perfectly natural appearance.

The examination of the urine is chiefly made for the purpose of determining whether the changes in this fluid arise from disease of the bladder or disease of the kidney, and likewise as a means of assistance when other signs of renal disease are either obscure or absent. Thus, when the patient does not complain of any pain in the lumbar region; when there is no tumefaction or tumour over the region of the kidney, etc., an examination of the urine may assist us in distinguishing pyelitis from cystitis. In the former we have, it is said, deposits of true pus in the urine, whilst in catarrh of the bladder the urine is glairy and viscid. This is often the case; but the pus in cystitis is not always glairy; and if the urine be alkaline, it will give a glairy appearance to the pus derived from the kidney. However, the secretion of pure pus, analogous to that furnished by an inflamed pelvis, is rare in cases of cystitis. It is also rare to find nothing in an inflamed pelvis except thick and adhesive mucus. The sedimentary deposit from an inflamed bladder, if examined under the microscope, will usually be found to contain a much smaller quantity of pus-globules than is seen in cases where the pus is derived from the kidney. Finally, in these latter cases it is not common to discover the large

crystals of triple phosphate which abound in the urine from an inflamed bladder.

The quantity of albumen contained in the urine should also be taken into account. It is much greater in cases of nephritis than in pyelitis or cystitis. It must be confessed, however, that the signs which I have now enumerated are not sufficiently characteristic to be ranked amongst diagnostic symptoms. The urine which we examine may contain pus; but the main fact to be decided, is, whether the pus comes from the bladder, the ureters, the pelvis of the kidney, or the uriniferous tubes. This can only be decided by minute examination of the urine; and even then we are only enabled to distinguish the pus of nephritis from that secreted by the lining mucous membrane of the urinary passages. Still this is an important step, for the chief danger in cases of urinary disease arises from the substance of the kidney being involved. When the urinary tubes and substance of the kidney are diseased, the epithelium is thrown off in granular casts of the tubes; when the urinary deposit depends on irritation, or subinflammation of the mucous lining membranes, it is chiefly made up of the basement epithelium. The form of the pus globules will also assist us in determining whether the matter is derived from nephritis or from inflammation of a mucous surface. In the former case, numerous pus-corpuscles will be detected entangled in the fibrinous casts of the uriniferous tubes; and this, perhaps, is the only diagnostic sign of any certainty that the inflammation involves the substance of the kidney, and is not confined to the pelvis, ureters, or bladder.

The acid and alkaline reactions of the urine are signs of little value. It has been stated that the urine is always alkaline in nephritis, and acid in pyelitis; but this is far from being constantly the case. Numerous examples of nephritis are on record in which the urine was more or less acid. The presence of pus in the urine does not, as has been often asserted, exclude the existence of nephritis. It is true that the pus from a diseased kidney almost always comes from the inflamed pelvis; but it is evident that an abscess in the substance of the kidney may open into the pelvis, and thus become the source of the matter discovered in the urine. Besides, pus-globules have been found in the urine of persons attacked by nephritis, without the mucous membrane being inflamed.

On the other hand, we are not to conclude, from the absence of pus in the urine, that pyelitis does not exist. The pus cannot be detected in the urine unless it has access to the bladder, and this may be prevented by several circumstances. Sometimes the urine is charged with pus, and in a few hours afterwards perfectly natural in appearance. This can only be explained on the supposition that the urine comes alternately from the diseased and healthy kidney. Rayer alludes to some rare cases of chronic pyelitis, in which the pelvis contracts on the enclosed calculus, becomes hard, thickened, and ceases to secrete pus. Here, if the opposite kidney remains sound, the disease could hardly be suspected during life. The urine of patients affected with pyelitis, often contains blood; and blood-corpuscles are occasionally discovered by the microscope, when they cannot be detected by the naked eye.

Pyelitis may be confounded with acute inflammation of the mucous

membrane of the bladder ; for in both affections the bladder is irritable, and the urine, in the advanced stages of the disease, loaded with pus and mucus. But there is a very distinctive mark between the two affections, viz. the intense pain which attends inflammation and ulceration of the mucous membrane of the bladder, and which soon exhausts the strength of the patient. Now in pyelitis the pain is never very severe, unless accompanied with stone in the kidney. Sometimes, however, both diseases exist together, and then the pain is very severe, and the course of the disease rapid, as happened in the following case, which I have given in my work on the bladder.

CASE. Deborah Mullday, aged 46, complained of great uneasiness, pain in the lower part of the belly, and frequent desire to void urine. After the bladder was emptied, the pain and uneasiness usually subsided. These symptoms were at first relieved by the use of the decoction of *pareira brava*. The pain became very acute, the desire to make water more frequent ; the urine contained a good deal of pus, and on two or three occasions, it was tinged with blood. The pulse was small and quick ; the countenance pale and sallow ; and there was emaciation of the body, with occasional shiverings and cramps. She had no pain in the loins, and there was no sickness until about ten days prior to her death, when it was very distressing, and of some days' continuance. On Friday, July 26th, she was seized with paralysis, and died on the following Tuesday. Twenty-four hours after death, the body was examined. The mucous membrane of the bladder was ulcerated in several spots. The bladder, which was thickened and contracted, contained a good deal of pus ; the vesical extremity of the left ureter was ulcerated ; the substance of the left kidney, in some parts, was completely destroyed by ulceration, and its pelvis full of pus ; the right kidney was in a state of atrophy, and its interior contained a deposition of chalky matter ; the urethra was inflamed, but not ulcerated.¹

THE MORBID APPEARANCES which are found after death vary. Supposing the disease to have been acute, and of short duration, the mucous membrane lining the pelvis will be found abnormally vascular, the firmly injected capillaries will be seen coursing over it in all directions ; and accordingly, as a fewer or greater number of these capillaries are distended with blood, the injection will be capillary or uniform. In one of M. Rayer's plates there is delineated a kidney attacked with acute pyelo-nephritis. The internal membrane of the pelvis and calyces is highly injected, the blood-vessels forming on the surface of that membrane a remarkable network. At some points it has a yellow tint. The distended pelvis contained turbid purulent urine ; the pelvis and the calyces were dilated ; the extremities of some mammillæ were slightly effaced. In the cortical substance, either at the base of the cones, or in their intervals, there were points of bright redness, and other points white or yellowish, from whence pus could be squeezed out. A certain number of bright red and purulent points were also visible on the surface of the kidney.

M. Rayer has also given a drawing of a vesicular eruption from the internal surface of the pelvis, in a case of chronic pyelitis. These vesicles, resembling sudamina in size and form, were scattered irregu-

¹ On Diseases of the Bladder and Prostate Gland, 4th edit., p. 153.

larly over the lining membrane of the pelvis, and some few existed in the ureter; they contained a thin transparent serum; the mucous membrane of the calyces had an unhealthy bluish rose colour; the calyces were deformed and diseased; the mammillæ were effaced; the cortical substance was sound, but in several spots its thickness was sensibly diminished.

This able physician has also delineated a case of chronic pyelitis, with polypoid excrescences from the surface of the mucous membrane of the pelvis and ureter. The mucous membrane of the pelvis and dilated calyces offered, in an extreme degree, the thickness and unpolished white aspect which is observed in a great number of cases of chronic pyelitis; the polypoid excrescences were pediculated, soft, spongy, and of a yellowish-red colour. In another drawing, the thickened walls of the pelvis are seen scattered over with rather deep ulcerations of different dimensions; these ulcerations were specially visible in the calyces. The mammillæ offered a very rare alteration, and which probably precedes the ulcerations; in fact, several mammillæ appear transformed into a yellow opaque substance, mingled with another transparent matter resembling colloid disease. The extremities of the other mammillæ were whitish, and irregularly ulcerated. This singular alteration was prolonged into the tubular substance, in the direction of the apices of the cones, at whose base there was a well-marked morbid redness.

Here and there a few large vessels give rise to the redness termed "ramiform", while the rupture of a few over-distended capillaries produces the appearance sometimes termed "punctiform" redness. Its depth of colour varies from a rather bright pink to a deep mahogany red. The polish of the membrane is gone, and its surface is more or less roughened; sometimes it is raised from the subjacent tissue in the form of little vesicles, identical in appearance with those so often seen on the skin in phthisis and some other diseases, and termed, in that situation, "sudamina", or miliary vesicles. If the inflammation has continued for a longer period of time, the hue of the membrane is of greyish red, grey, or even slate-coloured; it is considerably thickened, and this increase of thickness is not limited to the mucous membrane only, it affects the submucous tissue, and even the external fibrous coats of the pelvis. The extremities of the pyramid, the mammillæ of the kidney, are also by this time, if not earlier, of a deep red colour. Ulceration of the membrane, and even gangrene, have been observed in some cases. Now one of two changes ensues. Supposing a free exit to exist for the pus from the pelvis of the kidney into the ureter, then the cavity of the former is diminished by the contraction of its thickened walls. This contraction of the pelvis may be either local or general. Sometimes only one calyx and a part of the pelvis are more or less closed up; at others, the whole of the calyces and pelvis is pretty equally affected. If the contraction, however, be limited to the vicinity of the opening into the ureter, then the calibre of this duct may be so far diminished as to offer an obstacle to the free exit of the urine still secreted in quantity by the kidney, or to an accumulation of the pus poured out by the inflamed mucous membrane of the pelvis. In either case the ultimate result is the same, viz. great distension of the walls of the pelvis of the kidney, and a multilocular cyst

is formed, the loculi being composed of the dilated calyces. At the bottom of each *loculus* a depression may be seen, from which radiate numerous vessels in every direction; this appearance is produced by the expansion or flattening of the *mammillæ*, which, in the normal kidney, project into the calyces. At the same time that the pelvis undergoes this distension to a multilocular cyst, the proper substance of the organ diminishes in amount, and becomes atrophied. As the pelvis continues to dilate, a mere trace only of the pyramidal and cortical substances of the kidney may remain, and even ultimately that little may disappear, and the membrane of the pelvis and the capsule of the organ, both considerably thickened, lie in contact. As the inflammation is produced by the pressure of the distended pelvis in the tissues around, especially the loose cellular tissue in which the organ is embedded, one of two results may ensue: either healthy lymph is effused, and adhesions formed to adjacent parts; or a *pyo-blastema* is secreted, and the whole being resolved into pus, the sac formed by the distended pelvis of the kidney is bathed in that fluid, and subsequently a fistulous communication may form between the two collections of pus. Instead, however, of owing its origin to inflammation thus excited, the pus found round the kidney may be due to the distended pelvis giving way, and its contents being poured out directly into the loose cellular tissue referred to. I need hardly point out the fact, that the multilocular cyst formed by the dilated pelvis and calyces, is a totally distinct thing from the multilocular cysts sometimes found in the substance of the kidney. Inflammation affecting the pelvis of the kidney sometimes extends to the substance of the organ, and then purulent deposits in the organ, as well as other consequences of *nephritis*, ensue.

In certain cases of calculous *pyelitis*, says Rayer, the ureters are contracted, sometimes even obliterated. Such obliteration is frequently produced by the deposit of a white organized material adhering strongly to the walls of the ureter, and which appears to be either solid pus, or half-organized false membrane. Sand and gravel are sometimes entangled in this white matter. Below the obliterations, the ureter is frequently transformed into a fibrous cord. More often a calculus is found wedged in a part of the track of the canal, which is rough, and sometimes covered with a black matter, or with altered blood.

When such a calculus is close to the pelvis, pus accumulates in this reservoir; and the kidney is changed into a large purulent pouch, which may contain some pounds of fluid.

In kidneys attacked with calculous *pyelitis* without the lodgment of a stone in the ureter, or obstruction or obliteration of this canal, frequently not only is no increase of size observable, but they present sometimes a remarkable diminution. Now and then the calculus is impacted about the middle of the ureter, while at other times it is retained at the vesical mouth of this canal. When complete, or nearly complete, obstruction exists, the part of the ureter which is situated above the obstacle filled with urine, blood, pus, or gravel, becomes gradually dilated; and this has in one or two instances terminated in rupture. The kidney rarely presents, when such conditions are present, that large size which it frequently acquires when the ureter is obstructed near the pelvis.

Supposing the pelvis of the kidney to have been dilated into a large pouch filled with pus, the pus to have been evacuated by nature or by art, and the patient to have been restored to health—what is the condition in which this pouch will be found after death? Contraction will have followed the escape of the pus, and a fibro-cellular substance with the tissues puckered around, will be all that remains to indicate the situation occupied by the kidney, even in the case supposed of the enormously dilated pelvis of this organ.

CONCOMITANT DISEASES AND COMPLICATIONS. Whether we consider pyelitis and other diseases of the kidneys as the result of a morbid condition of the blood, or taking them as the primary cause, reflect on the effects which disease of the urinary secreting organ must produce on the circulation and general health, it is natural to conclude that they should be accompanied or followed by several more or less important lesions; and experience proves this to be the case. I shall therefore now briefly allude to some of the principal concomitant diseases and complications which have been observed during the course of pyelitis.

Infinitely the most common complication of pyelitis, is inflammation of the uriniferous tubes or nephritis; and this can be readily understood. Indeed, it may be affirmed that this compound disease is of much more frequent occurrence than pure pyelitis, the inflammatory action of the latter, if at all severe, being seldom confined to the lining membrane of the pelvis. Chronic pyelitis, again, may be followed by atrophy of the kidneys; or, in the calculous form, by perforation of the pelvis, calices and kidney itself. These, however, strictly speaking, may be regarded rather as effects of the disease than complications. The opposite kidney may become involved by sympathy with the inflamed one, in cases of calculous pyelitis originally confined to a single kidney, or it may remain sound and present the character of hypertrophy.

The concomitant disorders of the genito-urinary apparatus, in cases of pyelitis, are very various. They are generally primary, that is to say, have preceded the development of inflammation in the pelvis of the kidney. Thus, when certain morbid conditions of the urethra, prostate gland, or bladder, give rise to pyelitis, they do so by acting through the ureter, along which the primary inflammation ascends to the pelvis of the kidney. The ureter in such cases is often found dilated and of unequal calibre at different points, the walls being thickened in one place and attenuated in another. In severe cases of calculous pyelitis, the ureter, on the other hand, may be found contracted or even obliterated at a certain point. This latter is evidently the effect of chronic inflammation, for the walls of the ureter are here considerably thickened and lined with a false organised membrane, in the interstices of which particles of gravel or a calculus may be found engaged.

The connexion between pyelitis and diseases of the bladder or urethra, is established under two different circumstances. In some cases, those of gonorrhœa, etc., for example, the inflammation extends by continuity along the ureters. In other cases, and these are the most common, some impediment exists to the flow of urine from the urethra or bladder, the fluid stagnates, is thrown back on the pelvis, becomes a source of irritation, and inflammation sets in. In some

rare cases, according to M. Rayer, the inflammation may descend from the pelvis to the ureters, and thence to the bladder, giving rise to cystitis. When pyelitis is a consequence of stricture at any part of the urinary passage, the quantity of pus contained in the urine is seldom so great as when the disease arises from the presence of a calculus in the pelvis.

The complications of pyelitis are not confined to the genito-urinary apparatus. Organs in the neighbourhood of the kidney may become involved, or the derangement in the urinary secretion, consequent on inflammation of the pelvis and calices, may give rise to serious constitutional disturbance and disease in the principal organs of the body, as the head, chest, or abdomen.

Of the former class, peritonitis is the most frequent. This complication is, for the most part, confined to cases of calculous pyelitis; and the inflammation of the serous membrane may arise, either from perforation of the kidney, whereby the purulent matter escapes into the cavity of the abdomen, or from any cause which may excite inflammation round the sacculated collection of pus in the dilated pelvis. In a few cases, the peritonitis appears rather to have been the consequence of certain operations performed for the relief of the disease in the kidney.

Inflammation of the large intestines often supervenes likewise during the last stage of the disease, the patient being carried off by obstinate diarrhœa. Here the complication may result from communication between the abscess of the kidney and cavity of the intestines; or the bowel complaint may be one of the many general disorders which are so apt to arise in persons broken down by long continued disease of the kidneys. Whenever the pelvis and kidney give way, under the presence of accumulated matter, it is evident that inflammation must be excited in those parts which are in contact with the pus; and hence secondary inflammation may arise in other organs, as well as the intestinal tube.

The digestive apparatus often suffers sympathetically in cases of pyelitis: vomiting, occasional diarrhœa, and other derangements of the digestive organs, are frequent accompaniments of calculous pyelitis. Many cases of this kind are on record. A patient is received into the hospital with vomiting and chronic diarrhœa; the attention of the surgeon is exclusively directed to the state of the gastro-intestinal organs; the urine is not examined; the patient dies, and after death pyelitis is discovered, though never suspected during life.

Abdominal dropsy has also been mentioned as one of the complications of pyelitis; and it is said chiefly to occur in such cases as are accompanied by remarkable diminution in the secretion of urine. I would, however, rather refer this dropsy to inflammation of the substance of the kidney, than to uncomplicated pyelitis.

There certainly exists some connexion between pyelitis and the puerperal state, although the precise mode of relation may not be easily made out. When pregnant women are the subjects of pyelitis, they are much more liable to griping pains, than females suffering from the disease, who are not pregnant. Pyelitis is a predisposing cause of abortion. It has often been observed to set in soon after delivery, and especially after difficult labours. Here we may reasonably admit the existence of some injury to the bladder, uterus, or

extra-peritoneal cellular tissue, producing inflammation in these parts, and the extension of such inflammation to the pelvis of the kidney. The symptoms of the renal disease in such cases are often very obscure; and tumours of the uterus, or other conditions, etc., may complicate pyelitis, or rather become an exciting cause of that affection. Such cases I would refer to the same principle as those arising in the male from stricture, etc. The uterine tumour opposes the free passage of urine into the ureters and bladder, and thus excites inflammation of the pelvis, from stagnation of urine in its cavity. Lastly, it may be observed, that the disease of the kidney sometimes observed in puerperal females, may be referred to purulent absorption occurring immediately after delivery. In such cases, however, the substance of the kidney will be found to be the seat of purulent deposit, as well as the pelvis.

The respiratory organs often become implicated during the progress of chronic pyelitis. M. Rayer informs us, that he has frequently observed chronic bronchitis and pulmonary consumption supervene on long-standing inflammation of the pelvis and ureters. But here a distinction of some practical importance must be made. So long as the inflammation is strictly confined to the mucous membrane of the pelvis and ureters, it seems to exercise little influence on the respiratory system, or on the general health, provided no obstacle exists to the flow of urine into the bladder: on the other hand, whenever chronic inflammation of the pelvis of the kidney is followed by chronic nephritis, the constitution soon suffers, and the patient sinks under some affection of the pulmonary organs. Phthisis does not appear to be a predisposing cause of pyelitis: the kidneys act on the lungs, but the influence is not reciprocal. Amongst four hundred and fifty-two phthisical patients treated by M. Rayer, from 1837 to 1840, he only observed two cases of pyelitis.

Various disorders of the nervous system have been met with as complications of pyelitis. The principal are epilepsy, convulsions, delirium, paralysis, and, above all, the well-known disease called apoplexia venenata. It seems probable that these various effects are produced rather through the medium of the blood which becomes poisoned, than directly, on the organ implicated in the secondary attack. The cerebral symptoms often supervene in a very rapid and unexpected manner; in fact, the patient may be struck down and die from an attack closely resembling one of apoplexy, yet the cerebro-spinal system shall present no signs of disease after death. In other cases, some effusion may be discovered between the convolutions of the brain, or into the ventricles: in a few others, hæmorrhage had taken place between the coverings of this organ; and here the cerebral attack was preceded for some time by pain in the head, convulsive movements, and paralysis. The comatose state arising from the suppressed excretion of urine by the kidneys, is too well known to require any description here. I shall only observe that, in the majority of cases of cerebral disease supervening on pyelitis, the secretion of urine is more or less suppressed, and that the cerebral complications may therefore be referred either to the effects of impeded excretion, or to deranged secretion from the extension of the disease to the uriniferous tubes. On the other hand, the practitioner must ever bear in mind that retention

of urine, and the pyelitis consequent thereon, may be an effect, and not the cause, of disease of the brain. The history of the case, and the order in which the symptoms become developed, must here be our main guides in forming a diagnosis.

The connexion between diseases of the kidney and functional disorders of the spinal marrow, is now generally well known. Patients affected with pyelitis are sometimes attacked with pain over the lower part of the spine; and this is soon followed by more or less weakness of the lower extremities, occasionally amounting to complete paraplegia. The urine is sometimes alkaline, sometimes acid, during the progress of the case; often strongly ammoniacal; it contains pus and blood globules, and more or less of dysuria generally exists. In some cases, the kidney and spinal marrow appear to have been attacked simultaneously; at least, no symptoms of renal disease have been observed previous to the muscular debility and pain in the spine: at other times, the paralysis supervenes many weeks or months after the establishment of the primary affection.

In one remarkable case, recorded by M. Rayer, the patient had enjoyed apparent health, when he was suddenly seized with pain over the dorsal spine, soon followed by paralysis of the lower extremities. There was retention of urine, and, when drawn off, it was found to contain numerous pus-globules. The patient died; and the most careful examination failed to detect any change of structure in the brain or spinal marrow. The pelvis of the kidney contained pus, and the substance of the organ was likewise inflamed.

In this and similar cases of paralysis connected with disease of the kidney, it is difficult to attribute the complication to any other cause than vitiation of the blood through the urinary secretions.

TREATMENT. If the disease is recent, blood should be freely taken from the loins; warm fomentations, or a large poultice of linseed meal, be constantly applied to the lumbar regions; and strict rest in the recumbent position rigidly enforced: if possible, the patient should be confined to bed. A full dose of opium, in conjunction with a mercurial, should be given at once, and followed by an aperient, castor oil being preferable. The diet must be low, and various demulcent drinks may be allowed *ad libitum*; warm baths are useful addenda to other remedies.

If the disease has arisen immediately after the sudden suppression of a gonorrhœal discharge, hot baths should be employed, and the return of the discharge promoted. Supposing the disease to have become chronic, then, if the general health has not yet given way, slight depletion from the region of the kidney may be advantageously employed. Subsequently, considerable benefit may be derived from the administration of some of the vegetable acids, especially the citric. If the inflammation be of long standing, and unaccompanied by the slightest tenderness, even on firm pressure, in the loins, and attended by profuse discharge of pus, then I have seen the employment of terebinthinate remedies and astringents, which pass off by the kidneys quickly, induce considerable improvement in the local condition. In these cases, the diet must be more generous; meat may be taken daily, and even in some instances stimulants allowed. Should the health have begun to fail, the patient be losing flesh, his general

strength be diminishing, and perhaps night sweats commenced, then abstraction of blood must be avoided, and the surgeon's chief aim be to restore the general powers. Decoction of bark, with a few drops of dilute nitric acid, may be given two or three times a day; and small doses of iron, as of the tincture of the sesquichloride, are often extremely beneficial. Gallic acid is a most useful astringent in some cases of this description: it may be given dissolved in water, about five grains three times a day, or in some combination in which it exists naturally. Ura Ursi is very useful, and also the pareira brava in decoction. The patient should take carriage exercise daily, and spend as much time as possible in the open air without fatigue.

If the occurrence of attacks of sharp pains in the loins, etc., lead the surgeon to believe that the *fons et origo mali* is a renal calculus, then, in addition to the employment of the means before recommended, the chemical characters of the urine may afford some indications. Thus, should it be loaded with uric acid, temporary relief may in some degree be expected from the employment of alkalies; the condition of the digestive organs, especially the stomach and liver, being carefully attended to.

Attacks of nephritic colic imperatively demand the employment of large doses of opium; and, in these cases, it is surprising to see the large doses the patient will take, without being brought under its influence: a grain every hour has for many hours been given, without having produced a trace of narcotism. Chloroform may in such cases be employed, with the expectation or considerable benefit; it should be given so as to relieve the suffering, without rendering the patient insensible: inhalation is the only certain mode of producing the desired result. Chloroform has, however, been taken internally as an anodyne, and it is said with success, in allaying the pain of nephritic colic. Terebinthines and antispasmodics, as ether, camphor, assafoetida, musk, and castor, are also sometimes serviceable.

After pus has accumulated in the pelvis of the kidney in sufficient quantity to cause a tumour perceptible to the eye and hand, it is desirable that an exit for the fluid should be afforded, because, if left to itself, it may, by bursting into the cavity of the peritoneum, rapidly prove fatal to the patient. In order to lay open the abscess, the patient should lay on his sound side, bending the trunk slightly forward, an assistant making pressure on the anterior side of the abdomen, so as to bring the distended pelvis of the kidney as near as possible to the surface. An incision should then be made through the skin and subcutaneous cellular tissue, from the last rib to near the crest of the ilium, and about half an inch external to the mass of the lumbar muscles. The finger should now be introduced into the wound, and the depth of the latter gradually increased until a fluctuating spot is distinctly perceptible; a bistoury may then be passed into the abscess, and the matter evacuated. It must be borne in mind, that an abscess external to the kidney sometimes coexists with a collection of pus in the pelvis, and that, in such case, it is essential that the latter be opened. A calculus frequently escapes at the same time with the pus; should it not, a probe may be introduced, and its existence or not ascertained. Several objections may be made to the methods of opening these abscesses sometimes adopted, viz. by the introduction of a trocar, and by

the use of caustic potash. Not the least advantage is gained by either of these proceedings; and while the first is rash and uncertain, the latter is slow and painful; and by neither is a free opening effected for the exit of any foreign body, the removal of which is so desirable for the recovery of the patient. A fistulous opening sometimes remains, through which a constant discharge of pus takes place. In such case careful examination must be made to ascertain whether there is any foreign body in the cavity of the abscess; and several cases are recorded in which calculi in the kidney gave rise to abscesses, which were opened, and from which the foreign body was extracted.

Several cases are related of patients who have been cured in this manner,—a result which would never have been anticipated, if the stone had remained in the kidney, and nature herself had not appeared desirous of affording relief by facilitating to art the means of help. But there is no author who explains in a more clear and precise manner the formation of these kinds of abscesses than M. Le Dran. He says, that if the size of stone formed in the kidney, or some sharp points, prevent it descending into the pelvis, it enlarges in the substance of the kidney, remains there always, and is often the cause of very great suffering. It often happens, if the stone drops into the pelvis, it does not take the course of the ureter; the disease then terminates very often by the destruction of the kidney, or by an abscess. If an abscess takes place, the spot which the stone occupies in the kidney decides the site of the matter; if the stone is situated in the pelvis, or in the mammillary substance, the abscess may open into the cavity of the abdomen. But if the abscess occupies the medullary substance, quite close to the cortical, the abscess is continued even into the adipose tissue. Then it is not impossible that it may manifest itself externally below the false ribs, three or four fingers' breadth from the spine. If the slightest fluctuation be perceptible, the abscess must immediately be opened, and almost always the stone is lodged in a great quantity of pus. M. Le Dran records a case, in his *Observations de Chirurgie*, of an abscess in the loins, after the opening of which a calculus of the size of a pea escaped.

In cystitis, as I have before observed, the inflammatory action sometimes spreads up the ureters and leads to pyelitis. I was at one time inclined to think that the inflammatory action is always propagated upwards, from the bladder to the ureter, from the ureter to the pelvis of the kidney, and from the pelvis to the lining membrane of the uriniferous tubes. But this opinion, although generally correct, is too exclusive. The passage of a calculus downwards may excite inflammation successively in the pelvis, ureter, and bladder. Certain substances, as cantharides, so act on the uriniferous tubes in the first instance, and subsequently on the pelvis. Besides, Dr. George Johnson¹, in his interesting Gulstonian lectures, relates a case which appears to establish that the passage of morbid secretions may influence the uriniferous tubes primarily, and the lining membrane of the pelvis secondarily:—an occurrence which he thinks not rare in other instances of renal disease. Rayer also admits the extension of inflammation from the substance of the kidney to the pelvis and ureters.

¹ Medical Times and Gazette, April 24, 1852.

ON THE NATURE OF FOOD;

WITH SOME REMARKS ON THE VARIETIES OF ALIMENTS TO BE SUPPLIED TO THE ARMY OR NAVY.

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It is perhaps in the present day too exclusively, at least for practical purposes, assumed that, in the process of digestion, food, whether animal or vegetable, is merely dissolved and reduced to its proximate elements, and at once appropriated by the system. The beautiful exemplification of this law afforded by Liebig's discovery of analogous compounds in the vegetable to those formed in the animal, would appear to have been too rigorously applied in practice. It was rational to conclude, from such a fact, that while the carnivorous animals obtained the proximate elements of their organisms from the herbivorous, on whom they preyed, the latter did not convert, as formerly supposed, the vegetables on which they fed into their ultimate elements, prior to their re-formation into the proximate elements of their own bodies, but by a simple solution analogous to that effected in the digestion of carnivora. Thus their fat was procured from the oily matters of plants; the fibrine, albumen, casein, etc., in their tissues, from vegetable fibrine, albumen, and casein. These are no doubt the principal sources whence these substances are procured; but not by any means *the exclusive sources*.

It may, thus, be advisable shortly to sketch the process of digestion in its alimentary bearings, so as to bring the whole subject into something like a connected form, to enable me to apply the conclusions deduced from facts, and to refute objections. In this sketch, I have adopted Bernard's views, from a belief that the extended nature of his experiments, and the very careful manner in which they were conducted, fully authorise the conclusions to which he has arrived. In doing so, however, I cannot forbear acknowledging the obligations due to Professor Donaldson, for the very lucid and intelligible manner in which he has set forth these views in his late admirable papers on this subject, and from which I have largely drawn. (*American Journal of Medical Science*, vol. xliii.)

The food first masticated in the mouth, is moistened with saliva. The saliva is not the same fluid, as it emanates from each of the salivary glands. The secretion of the parotid and sublingual glands is clear and limpid, poured out at the moment of, and assists, mastication. The secretion of the submaxillary gland is thick and glutinous, secreted during, and assisting, deglutition. Nor do the secretions of either of these glands, separately or conjointly, exercise any influence upon food, even of the amylaceous variety, other than the mere mechanical one of facilitating its transit down the oesophagus into the stomach. When combined, however, with the fluid from the *buccal* glands, amylaceous food, kept long enough in contact with it, is converted entirely into grape sugar, dextrine, lactic, and butyric acids. In ordinary digestion, however, as the food is not kept long enough in contact with it, this change is but very imperfectly carried on. The peculiar

principle in the saliva on which this change depends is *ptyaline*, or *animal diastase*. It exists in many other fluids of the body; in the serum of blood, in mucus from inflamed or irritated mucous surfaces, in the serum of cysts of the liver, all of which will produce a like change on amylaceous food.

Arrived into the stomach, the food comes in contact with the *gastric juice*. This gastric juice is made up of free acid, namely, the *lactic*, (and not the hydrochloric or acetic, as formerly supposed,) chlorides of lime and ammonia, phosphate of lime, an aromatic principle, and an animal matter called by some *pepsin*, by others *chymosine* or *gasterase*. The action of the gastric juice is limited to the nitrogenous and mineral aliments. Fatty matters and amylaceous aliments pass through unchanged. Meat, kept long enough in contact with it, is completely dissolved by it; as also albumen, casein, and fibrine. The former is not coagulated by it, but merely rendered opalescent. The casein is coagulated by it prior to solution. The third is with most difficulty digested; indeed, the muscular fibres are generally, in ordinary digestion, never more than partially dissolved, and the greater part of the fibrine passing out by the pylorus, is little more than softened; this solution constituting the chyme. Although lactic acid is the acid of gastric juice, still any dilute acid, when mixed with pepsin, will dissolve food in like manner. There is this difference, however: that whereas the solution in ordinary gastric juice is perfectly assimilable, and may be injected in the veins without injury, that dissolved by the artificial juice prepared with any other acid, will generally prove fatal to the animal.

The chyme passes onwards into the duodenum and small intestines. This chyme consists of amylaceous food partially changed in sugar, dextrine, lactic and butyric acid; nitrogenised food partially dissolved; a large quantity of amylaceous, fatty, and nitrogenous food, merely moistened, or mechanically mixed with the watery portions of the saliva and gastric juice; and the whole has an acid reaction.

On reaching the duodenum, the chyme is mixed with the bile. The changes effected by this agent are numerous. The whole fluid is rendered *alkaline*; the nitrogenous aliments are rendered *soluble*; the chyme is rendered *indestructible* and *imputrefactive*; all kind of fermentation is stopped. The saccharine and amylaceous aliments are untouched; the fatty likewise, unless they are rancid, in which case a sort of saponification takes place by mixture with the bile. With fresh oils it is only a mechanical mixture. This mixture is called the "*chyle brut*."

This chyle brut in its progress comes in contact with the *pancreatic fluid*, and by it is effected the saponification of the fatty matters. This saponification is not due to alkalies, as the pancreatic fluid will saponify fats in acid mixtures, but to an active principle in the pancreatic fluid, called *chyloposine*, which resembles albumen in most of its chemical characters, yet differs from it in being redissoluble, after coagulation, in water.

The universal solvent of food is thus not the gastric juice, as has been generally supposed, but the combination of saliva, gastric juice, bile, pancreatic fluid, and the secretion of Brunner's glands. This is the veritable dissolving and digesting fluid. Neither the saliva, how-

ever, nor even gastric juice, are essential; as food in a liquid state will, if injected into the duodenum, be digested. The intestinal fluid will equally dissolve out of the body all kinds of food.

The various aliments having been dissolved by the intestinal fluid, the digested or assimilated are taken up by the lacteals and veins, and mixing with the general mass of the blood, are severally apportioned to nourish the different parts of the system, and for the purposes of respiration; the former consisting of the nitrogenous or azotised portions; the latter, of the hydrocarbons.

In so far, then, as regards the formation of some portion of the fat, of the albumen, fibrine, or casein, sugar, and the mineral ingredients of the body, it is readily seen how these may be directly derived, as proximate substances, by the mere solution of the food.

Apart, however, from this source, there is no doubt that some of these substances are *elsewhere manufactured* in the body. Not to speak of the cerebral matter, which is admitted by all to be the result of a purely animal change, there is evidence to warrant the belief that sugar, fat, and fibrine, are likewise formed by the liver; as shewn, especially in reference to the two former, by Bernard.

1. *Sugar* is secreted by the liver. In cases of diabetes, in which all substances capable of direct conversion into sugar were carefully excluded, such as the three varieties of sugar usually taken as aliments, cane, glucose and milk sugar, or amylaceous food of any kind, sugar was found in the hepatic veins. The same experiments repeated upon dogs, whether fed with such substances, or lean meat simply, gave a similar result. The parenchyma of the liver in man, oxen, dogs, cats, rabbits, horses, and even of the foetus, contained sugar. Again, irritation of the olivary bodies in the medulla oblongata, or the administration of narcotics, gave rise to it for a limited period in undue abundance, so that it was detectable in the urine.

2. *Fat*, very analogous to butter, is also secreted by the liver. The portal vein was tied, so as to prevent the absorption by it of any fatty matters taken with the food, and fat was detected in the hepatic vein. This fact affords a ready explanation of the fatty livers in some drunkards, where the organ is unduly stimulated. It explains the occurrence of fatty livers in animals kept quiet, and prevented from consuming their fatty tissues. It explains, probably, the examples of chylous urine or fatty diabetes, where it may be presumed the liver secretes an undue quantity of fat, which, like sugar, is excreted by the kidneys. It explains satisfactorily the formation of fat over and above what is taken *as such* in the stomach, in cases of corpulent persons, and in animals fed exclusively on nitrogenous matter. Thus Bous-singault fed geese on albumen and casein exclusively, and found they fattened upon it. A good instance, also, of the change of nitrogenous into fatty matter has been afforded by Playfair, in the fact that not only does the yield of milk, but also the amount of butter, increase with the amount of nitrogen in the food, *i.e.* with the quantity of plastic aliment taken: a fact the more remarkable, as the absence of nitrogen in butter would naturally have led to a different conclusion. (Knapp's *Chemistry applied to Art*, vol. iii, p. 45.) Lastly, as evidence of the production of fat, or rather the conversion of nitrogenous tissues into fat, we have the examples of fatty degeneration. Be this a pro-

cess of decay, or of diminished nervous energy, I do not pretend to say, but the fact is unquestionable.

3. *Fibrine* is probably also secreted by the liver. The *albuminose*, or solution of food in the *intestinal fluid*, is believed by Bernard to be transformed at once into fibrine in its course through the vena porta. The blood which enters the liver, even in an animal fed exclusively on meat, contains large quantities of azotised matter, but very little fibrine. The hepatic veins contain much fibrine, and but little albuminose; and further, this difference is only observed during digestion. The same change has been noticed in the chyle after its transit through the mesenteric glands. (See Professor Donaldson on Bernard's new discoveries, *American Journal of Medical Sciences*, vol. xlviii.)

Essentially, therefore, while it cannot be denied that nature will generally adopt the simplest method to nourish the body, we should not too exclusively direct attention to this means of nutrition, as has perhaps been done by Liebig, to the disregard of the other. It is philosophical, certainly, to admit that most of the fatty, saccharine, nitrogenous, and mineral elements, are often directly obtained from those substances, taken as food, and in which they already exist ready formed as such. But there can be no doubt, also, that these same substances may, under peculiar circumstances, be decomposed again into their ultimate elements, for subsequent appropriation after conversion into new alimentary compounds, by the economy. This change may be secondary to digestion, *i.e.* effected through a special organ, or the general capillary system, apart from any direct connexion with the intestinal tube, but it is not the less completely and certainly effected; whence it becomes important to estimate the value of aliments, rather in reference to their ultimate, than their proximate composition, so that while we do not lose sight of the latter, we can more certainly trace or explain the possible changes that may occur through the former.

Having thus prepared the ground upon which I purpose to tread, I proceed to speak of food in a more especial manner. In doing so, I may premise by stating that I availed myself of any information I have been able to collect from the French academicians, Dumas, Pereira, Proust, but especially Liebig and Knapp, and a few others; nor have I hesitated to quote largely from the works of these, when it appeared to me that a fact, conveyed in the expressions of such distinguished authorities, would carry more weight.

The food of man may be divided into two grand classes. 1. The *Combustible*; 2. The *Incombustible* aliments. The incombustible may be again divided into two important subclasses; 1. The nitrogenous or azotised aliments, or those serving especially for the nourishment of the body; the amount of nitrogen contained in a compound aliment being proportionate to its nutritive qualities. 2. The *mineral* aliments or salts, which by their chemical and physical properties, keep the nitrogenous and combustible aliments in that state of solution, or physical condition, in which they are best calculated to serve the purposes of the economy.

The *combustible* aliments, or compounds especially rich in hydrogen and carbon, are those serving for the purposes of respiration, and the maintenance of animal heat in the body.

There is one fact in connexion with these three classes of aliments, the nitrogenous, mineral, and combustible, which is of great interest. It is that the aliments of no one class, or even of any two, if perfectly pure, are capable of supporting life for any lengthened period. After a time varying on an average from one week to a month, animals so fed die with all the symptoms of starvation. It is true it was once believed that gluten was an exception, as it proved sufficient to maintain life even when given singly. Such was certainly the result aimed at by the French academicians—but gluten can scarcely be considered a simple aliment, since it may be looked upon as a compound of vegetable gelatin, vegetable fibre or fibrine, oil, and gluten. Moreover Magendie has since shown that the gluten used in the experiments before alluded to, was not pure, but, in fact, a very compound body, containing, besides gluten, a little albumen, gum, mucilage, starch, and even sugar. It becomes therefore most important that the food supplied should at all times contain a full proportion of each of these alimentary matters.

I. OF THE INCOMBUSTIBLE ALIMENTS.

1. *The Nitrogenous Ingredients.*

The nitrogenous sub-class may be divided into two groups. In the first, we have the proteinaceous aliments, in which we may include the proteinaceous compounds, or those derived from them.

In the second group, which for convenience I have called the *per-nitrogenous*, I would be understood to mean, not only those aliments which resemble creatine in some of their chemical properties, but also those which contain, like creatine, a very much larger quantity of nitrogen than the proteinaceous group, but which are also comparatively rich in hydrogen and carbon.

a. The Proteinaceous group. These compounds have been so named from their being all derived from proteine, and may be enumerated as follows: Proteine being, $C_{40} H_{31} N_5 O_{12} = Pr.$

Albumen of blood .. 10 Pr. + S. ₂ P.	Arterial membrane .. Pr. + 2 HO.
Albumen of egg .. 10 Pr. + S. P.	Mucus Pr. + 3 HO.
Fibrine ditto.	Chondrine Pr. + 4 HO. + 2 O.
Casein 10 Pr. + S.	Horny tissue .. Pr. + NH. ₃ + 3 O.
Globulin 15 Pr. + S.	Gelatinous do... 2 Pr. + 3 NH. ₃ +
Muscular flesh.... Pr. + HO. + H.	HO. + 7 O.

These formulæ (taken from Simon) must not be looked upon as representing the actual constitution of these tissues respectively; but only the proportion of actual elements present, and as indicating the changes which may take place in the formation or alteration of each.

More lately Liebig, in his late work,¹ appears to doubt whether these tissues are in reality all proteine compounds; he seems to regard them rather as metamorphoses one of another, taking place in connexion with other elements. Thus, if from the formula of casein we deduct that of blood, we have—

	S.	N.	C.	H.	O.
Formula of casein	2	36	288	228	90
Formula of blood	2	27	216	169	68
Subtracting one from the other, we have		9	72	59	22

¹ Liebig's Letters.

According to this view, it is evident certain proportions of carbon, hydrogen, oxygen, and nitrogen, must separate from casein, if it is to be converted into the albumen of blood; but what surprises us, when we observe these formulæ, is, that the eliminated elements, with the exception of a small amount of oxygen, are in the same proportion as in chondrine: so that if we add to the formula of casein, ten equivalents of oxygen, we obtain a formula which includes precisely those of albumen of blood and chondrine.

	S.	N.	C.	H.	O.
To formula of chondrine		9	72	59	32
Add that of albumen.....	2	27	216	169	68
Formula of casein + ten oxygen	2	36	288	228	100

In like manner the formula of albumen + 10 water, contains the elements of 2 gelatine + 1 choleic acid. Again, fibrine of blood + 8 water = 1 albumen of blood + 1 gelatine.¹

When changes of this kind are examined, we are enabled to trace the analogous relations of several aliments, apparently very different in nature, and yet capable of being grouped together in the same category. Between those named, for instance, though in the change the substances are not exactly reduced to the proximate substances to which they are closely related—*protein*, still there is a marked relationship. It is but a modification of what we have before noticed; but may lead to an easier explanation of those more complete changes, by which one aliment assumes the form of another aliment, before it is finally appropriated by the economy. Thus starch becomes converted into fat; flesh and blood into fat; perhaps fat again into grape sugar, etc.

Four only of these substances need occupy our consideration, namely, fibrine, albumen, casein, and gelatine.

1. *Fibrine*, the principal constituent of muscular flesh, or the shreds obtained from fresh blood when it is stirred up with fine rods, exists largely in the animal body; but it is also found in the vegetable kingdom, in *gluten*—the substance which is left behind when the starch of wheat flour has been separated, by washing the dough in water till the water is no longer milky; or *vegetable fibrine*, as the greenish-tinged precipitate deposited in the newly-expressed juices of vegetables, after they have stood a little while, duly freed from colouring matter.

2. *Albumen*, as it occurs in the white of eggs, or in the serum of blood. Its analogue in the vegetable world is *vegetable albumen*, obtained as a precipitate from certain vegetable juices, such as cauliflower, asparagus, mangel wurzel, or turnips when boiled.

3. *Casein*, or cheese as it exists in milk. Its analogue in the vegetable world is *legumin*, a vegetable casein, obtained from peas and other leguminous plants, such as beans and lentils, as a precipitate from the milky fluid remaining after the first subsidence of albumen.

These three substances, though differing in form, and in the functions which they perform in the animal economy, and adapted for special and distinct purposes, are yet essentially the same in their chemical composition, and readily convertible one into the other, both in the body, and by artificial processes out of the body.

¹ Liebig's Letters.

4. *Gelatine* does not exist in the body as such, but is the product of their alteration by boiling. It forms the basis of glue, size, etc. Though not properly a proteinaceous compound, it is evidently derived from them, as before seen.

b. The *pernitrogenous* group includes substances very much richer in *nitrogen* than any of those before alluded to. We may include in this group theine, caffeine, theobromine, the essential principles of tea, coffee, and cocoa; and, indeed, the active principles of many medicinal tonics, quinine, strychnine, etc., could as fairly be taken in it. This division is arbitrary; yet that some relation exists is evident, from the following formulæ, given by Liebig:—

	Carbon.	Nitrogen.	Hydrogen.	Oxygen.
Theine	8	2	5	3
Kreatinine	8	3	7	2
Glycicoll (anhydrous)	8	2	8	6
Kreatine	8	3	11	6
Theobromine	7	2	4	2
Caffeine	8	2	5	2

We see from these formulæ that kreatinine contains the elements of theine and those of amide (NH_2); and that glycicoll and kreatine differ in this, that the latter contains one equivalent of ammonia more than the former. Theine or caffeine, and the bodies resembling them, which may be taken without injury, all, on the other hand, contain for the same amount of nitrogen, eight equivalents of carbon, or less than the constituents of blood. Theine is related to no organic base more closely than to kreatinine.

Both kreatine and kreatinine are readily convertible into one another. They exist in all vertebrata hitherto examined. Human flesh is particularly rich in kreatine; and both are found in extract of flesh. As nitrogenous aliments, they contain very much more nitrogen than the proteinaceous; and if the amount of nitrogen present in an aliment be considered as the test of its nutritive value, they are much more nutritious than the proteinaceous.

Now it has been generally admitted, that the amount of nourishment in aliments is in proportion to the amount of *nitrogen* or *azote* contained in them. With the reservation, that this nitrogenous ingredient can only be looked upon as a measure of nutritive value in so far as it is really digestible, this may be stated to be generally true. In accordance with this notion, the following table, giving the equivalents for several alimentary substances, taken from Boussingault, Knapp, Horsford, Thomson, and Schlossberger, upon the scale of wheat as 100°, has been prepared.

Table of Nutritive Equivalents, corrected from recent analyses.

Wheat, 2·61=100. (n. s., natural state.)					
	Amount of Nitrogen.	Equivalent.		Amount of Nitrogen.	Equivalent.
Rye straw, n. s.	·17	1535	Juice of potatoes	·37	705
Pure saw-dust, n. s.	·22	1186	Oat straw, dry	·4	652
Barley straw, n. s.	·23	1134	Wheat straw, dry	·4	652
Rye straw, dry	·25	1044	Red clover stalk, n. s.	·4	652
Barley straw, dry	·26	1003	Buck wheat straw, n. s.	·48	543
Husks of oats, n. s.	·30	870	Leaves of beet, n. s.	·5	522
Pure saw-dust, dry	·31	841	Pulp of potatoes, n. s.	·52	501

Table of Nutritive Equivalents, continued.

	Amount of Equi- Nitrogen. valent.		Amount of Equi- Nitrogen. valent.	
Grass, n. s.	53	492	Wheaten flour, Vienna, No.	
Oak saw-duft, n. s.	54	483	1, and rye bread, made	
Buck wheat straw, dry	54	483	with upper malt dough	3
Stalk of potatoes, n. s.	55	474	Ditto, No. 3	3.44
Oak saw-dust, dry.....	72	362	White bread, made with	
Husks of wheat, n. s.	85	306	malt dough	3.9
Leaves of carrots, n. s.	85	306	Piperine	4.1
Husks of wheat, dry	94	277	Yellow peas, dry	4.4
Millet straw, dry	96	271	Garden pea, n. s.	4.42
Pulp of beet root, n. s.	1.14	228	Cow's milk, dried, 212° ..	3.78
Common rice, n. s.	1.16	225	White large bean, n. s.	4.59
Onions, n. s.	1.18	221	Lentil, from Vienna, n. s. ...	4.57
Pulp of beet, dry	1.26	208	Garden bean, ditto, n. s. ...	4.47
Hay, n. s.	1.5	174	Mushroom, dry	4.6
Upper portion of best wheat			Best white bread, made	
straw, n. s.	1.33	197	with upper malt dough	4.8
Ditto, ditto, dry.....	1.42	184	Yolk of egg, dry	4.86
Turnips, n. s.	1.45	180	Oysters, dried	5.25
Tartar buck wheat, n. s. ..	1.56	167	Fibrine, fresh meat	3.5
White potatoe, n. s.	1.56	167	Ox blood, albumen to chon-	
Underground trefoil root,			drine, n. s., by calculation	4
n. s.	1.62	161	Oats, maxim. (Wigtonshire)	5.51
Carrots, n. s.	1.67	157	Salt cod	6.7
Beet root, dry	1.7	153	Dry brain	6.7
Mangelwurzel, n. s.	1.81	145	Eel, raw, dry	6.91
Pulp of potatoes, dry	1.95	134	Eel, boiled	6.82
Rye flour, Vienna, No. 1, n. s.	1.87	140	Crushed bones, n. s.	7.01
Wheaten flour, Vienna,			Ditto, dried	7.58
No. 2, n. s.	2.13	123	Quinine	8.1
Oats, entire grain, with			Ham, raw, dry	8.57
husks	2.18	118	Cinchonine	9
Cerebric acid	2.2	118	Salmon, boiled	9.70
White bread (Thomson),			Salt cod, dry	10.86
dry, 212°	2.27	113	Cheese dried at 212°,	5.27
Indian corn, n. s.	2.3	113	to	to
Peas straw	2.3	113	varies from	7.11
Jerusalem barley, from Ho-			Tea	9
henheim, n. s.	2.31	113	Pigeon, raw, dried, 212° ..	12.10
Kamtschatka oats, from			Mutton, raw, ditto	12.3
Hohenheim, n. s.	2.39	108	Salmon, raw, ditto	12.35
Beet root, n. s. (Liebig) ..	2.43	107	Ham, broiled, ditto	12.84
Black bread (Playfair), by			Lamb, raw, ditto	13.26
calculation	2.4	108	Albumen of egg, ditto	13.44
Black bread, dry, 212°			Mutton, boiled, ditto	13.55
Thomson	2.63	100	Veal, raw, ditto	13.89
Wheat, mean, 3 expts., n. s.	2.61	100	Herring, ditto	14.48
„ Average with bran,			Veal, boiled, ditto	14.50
by calculation, n. s.	2.65	98	Beef, boiled, ditto	14.99
Martinique coffee	2.41	108	Extract of milk, ditto	15.8
Talavera wheat, n. s.	2.59	100	Roasted beef, ditto	15.8
Sandomier wheat, n. s.	2.68	98	Glutin from isinglass, dry	18.3
Whittingdon wheat, n. s. ...	2.69	97	Isinglass, dry	18.7
Common winter wheat	2.79	93	Asparagine, ditto	18.7
Rye, from Hohenheim, n. s.	2.78	93	Glycicoll, ditto	19.8
White early oats, n. s.	2.82	92	Creatine, ditto	28.1
Oats, grain without husks	2.82	92	Theine, ditto	29
Oats, mean, nine experi-			Caffeine, ditto	28.8
ments	2.92	89	Theobromine, ditto	35.3
Carrot leaves, dry	2.94	88	Creatinine, ditto	38
Liquid blood	2.94	88	Robertson's extract of meat,	
Biscuit made with flour			dry?	4.3

2. OF THE MINERAL INGREDIENTS.

The second group of the incombustible aliments are the mineral ingredients, consisting of alkaline phosphates, and carbonates of soda, magnesia, potash, the earths, silica, oxyde of iron, chlorides of sodium and potassium, besides water. These substances, although in themselves innutritious, are yet essential to life, the phenomena of which could not be carried on in their absence. These mineral ingredients are, in fact, those agents by which the nitrogenous and combustible aliments are preserved in a condition useful for the purposes of the economy. In a practical point of view, however, they do not require to be very specially considered, as the same salts usually enter into the composition of all animal and vegetable food, with slight modifications. As a general rule, it may be admitted that animal food contains more phosphoric acid, more soda and iron; vegetable food, more carbonic acid and potash.

To set forth the relative value of food, according to the quantity of salts each contains, in a tabular form, would necessarily involve the whole subject of dietetics. Thus each article of food would have a different equivalent for each ingredient it contained; for potash, soda, lime, and magnesia; for phosphoric, silicic, carbonic, and sulphuric acid; for sesquioxide of iron, and the chlorides of potassium and sodium. Reserving this work of labour for a future occasion, a few examples of the amount of alkali and alkaline earths on the one hand, and of the various acids found in the incinerated ash are here subjoined. It may be remarked, that the amount varies very greatly in each kind of aliment. Thus, some kinds of grain contain quite as much phosphoric acid and alkalies as blood. Generally, however, the quantity of phosphoric acid in plants is much smaller, and carbonic acid takes its place.

100 parts of the incinerated ash of the following substances contain:

	Potash and Soda.	Lime and Magnesia.	Phospho- ric Acid.	Sulphuric and Silicic Acid.	Carbo- nic Acid.
Wheat, mean 32 expts.	31.87 ..	16.20 ..	46.00 ..	3.68 ..	—
Barley, mean 10 expts.	22.70 ..	11.13 ..	35.20 ..	27.52 ..	—
Oats, grain, 7 expts.	29.25 ..	11.62 ..	18.19 ..	48.37 ..	—
Rye, mean	33.75 ..	15.33 ..	49.19 ..	1.41 ..	—
Maize, mean	42.59 ..	12.74 ..	30.93 ..	10.13 ..	—
Millet seed	22.68 ..	8.52 ..	18.19 ..	59.98 ..	—
Buck wheat	28.92 ..	17.04 ..	50.07 ..	2.85 ..	—
Rice	30.15 ..	12.96 ..	53.36 ..	3.35 ..	—
Peas, mean	41.23 ..	13.82 ..	36.48 ..	5.06 ..	—
Beans	47.05 ..	41.55 ..	32.22 ..	2.45 ..	—
Lentils	34.49 ..	7.05 ..	29.07 ..	1.07 ..	—
Hay	46.37 ..	11.11 ..	15.05 ..	29.03 ..	—
Potatoe dregs from disty.	42.99 ..	12.52 ..	16.78 ..	8.94 ..	12.27
Clover	56.81 ..	30.19 ..	4.12 ..	3.66 ..	—
Cabbage	31.64 ..	32.96 ..	1.94 ..	10.14 ..	19.50
White ditto	49.45 ..	14.08 ..	— ..	— ..	12.42
Fresh artichoke.....	29.58 ..	14.70 ..	38.96 ..	12.20 ..	14.00
White turnips	52.00 ..	13.58 ..	14.00 ..	— ..	8.03
Potatoes	55.44 ..	6.74 ..	16.83 ..	— ..	12.00
Beet root	40.63 ..	10.21 ..	2.39 ..	16.57 ..	29.10
Orange	47.84 ..	32.58 ..	11.07 ..	4.18 ..	—

	Potash and Soda.	Lime and Magnesia.	Phospho- ric Acid.	Sulphuric and Silicic Acid.	Carbo- nic Acid.
Grape juice	57.12	13.77	—	13.72	—
Tea	53.48	8.08	9.88	11.03	10.09
Cocoa	37.14	18.85	39.65	1.70	—
Coffee	51.45	12.25	10.02	4.74	20.50

Many of the means above given can only be considered as averages, as in some specimens of wheat as much as 60, in some of oats as much as 50 per cent. of phosphoric acid was found.

The animal substances may be included in two groups; the blood, in which there is excess of alkali; flesh, in which there is excess of phosphoric acid.

100 parts of the ashes of the following substances contain :

	Potash and Soda.	Lime and Magnesia.	Phospho- ric Acid.	Sulphuric and Silicic Acid.	Carbo- nic Acid.
BLOOD (ASHES OF).					
Sheep's blood (Verdeuil)	55.79	4.87	14.80	—	19.47
Ox blood (Stolzel)	59.97	3.64	14.04	—	18.85
Dogs fed on flesh (Verdeuil)	55.24	2.07	36.82	5.87	—
Fowl's blood (Henneberg)	48.41	2.22	47.26	2.11	—
Pig's blood	49.08	3.08	36.05	9.09	—
Human blood	0.58	99.00	31.78	—	3.78
Calf's blood	0.66	57.00	20.14	—	9.84
Pigeon's blood	33.55	7.24	49.93	0.29	—
Goose's blood (mean)	18.81	7.76	34.03	0.73	—
Young cock's blood (mean)	22.13	8.45	35.97	1.47	—
Frog's blood	18.12	2.36	46.48	0.75	—
Perch	20.42	5.83	37.52	0.78	—
FLESH (ASHES OF)					
Flesh	40.20	5.69 ¹	36.60	2.95	—
Residue of flesh after making soup	4.78	2.54	10.36	—	—
Soup	35.42	3.15	26.24	2.95	—
Ox flesh (Stolzel)	43.95	6.17	42.03	7.85	—
Horse flesh (Weber)	42.02	6.54	51.44	—	—
Veal	41.26	2.83	55.15	0.92	—
Cod	7.95	43.48	16.77	1.64	—
Gruyère cheese	13.48	40.99	45.00	0.18	—
German hard cheese	42.69	8.92	47.88	0.11	—
Ox flesh washed out (Keller)	24.97	10.45	46.13	—	—
Ox brain (Dr. Breed)	38.62	3.59	57.79	—	—
Yolk of Egg	14.15	24.20	60.34	—	—

The quality of food therefore which a person takes, will give rise to very different salts in the blood. Liebig has shown that the urine is a sort of index to the blood, i.e., that the same salts exist in the blood which do in the urine; so that the knowledge of the constitution of the former involves the knowledge of the latter. Now if food has been bread or flesh, the ashes of which contain only phosphates, the urine (the results of the combustion in the body) will contain the alkalies only in the form of alkaline phosphates. If, on the other hand, the food has been roots, green vegetables, or fruits, the ashes of which contain carbonates as the soluble salts, the urine contains alkaline carbonates. The following table, indicating the change in the urine, may be considered as also indicating the changes in the blood with different kinds of food.

¹ With iron.

² After lixiviation in lime-water.

With food consisting of flesh,
bread, beans, lentils, etc.
Free phosphoric acid.
Phosphates of lime and magnesia.
Phosphates
Sulphates } of
Urates } alkalies.
Hippurates }

With vegetable food, hay, clover,
turnips, potatoes, fruits, etc.
Free carbonic acid.
Carbonates of lime and magnesia.
Carbonates
Sulphates } of
Hippurates } alkalies.

The substance holding in solution the ingredients of the blood being in one case phosphoric acid, in the other carbonic acid. "The phosphate of soda has an alkaline taste and reaction like the carbonate, and its solution in the presence of free carbonic acid takes up as much of that acid as carbonate of soda does; and like it, only more easily, gives it off by agitation *in vacuo*, or by evaporation without losing its power of again absorbing carbonic acid. Hence it follows that the change of acid, combined with alkali by phosphoric acid, has no pernicious influence, and *vice versa*, because it gives rise to no alteration in the essential properties of the blood. The processes of sanguification, of the production of heat and secretion, are carried on alike under the influence of the predominating alkali."—*Liebig*.

II. OF THE COMBUSTIBLE ALIMENTS.

The combustible aliments include all the amylaceous, oily, alcoholic, saccharine, gummy, and pectinaceous compounds. These, it has been already seen, are especially rich in carbon and hydrogen, which, in the process of respiration, uniting chemically with the oxygen of the atmosphere, a process analogous to combustion is set up, water and carbonic acid being generated. This chemical combination develops a certain amount of caloric, which by conduction traversing the surrounding tissues, communicates to the body that degree of temperature essential to life, technically called animal heat.

It will follow from the remarks before made, relating to the secretion of fat, grape sugar, and fibrine by the liver, and specially the circumstances under which the former are produced, that a variety of aliments though not simply hydrocarbons, may undergo such chemical changes in the body as to be converted into combustible aliments; but the question here offers itself, into what proximate substances are purely combustible aliments as hydrocarbons rendered for assimilation? The experiment before quoted of Bernard, p. 518, proves that hepatic sugar is one of the substances consumed in the lungs. In like manner it is reasonable to conclude that all varieties of sugar, amylaceous or gummy substances, capable of conversion into *glucose*, are as such consumed in the lungs. Apart therefore from their numerical value as hydrocarbons, the readiness with which they are converted into glucose is a test of their combustible value. Fat, however, is without doubt a very rich respiratory per-combustible aliment. The emaciation which occurs in those who, not receiving a sufficiency of alimentary matters, or in whom, through disease, increased respiratory movements call for an additional supply of respiratory matter, is so much evidence of this. Is this fat converted into glucose? This is doubtful, as when diabetic patients grow fat on oily matters, the amount of sugar diminishes in the urine. Bernard also showed that the blood coming from the lungs contained nearly as much fat as that which entered them by the pulmonary arteries; and if this experiment be

received in a negative sense, it will follow that fat is not consumed in the lungs by a direct decomposition there, until after its conversion into glucose in some other part of, or by some other organ in the body. This would in part diminish its combustible value, as compared with glucose, and make its equivalent somewhat less than that which is numerically ascribed to it. Future experiments will probably solve these difficulties. In the meanwhile it is wiser to look alone to their numerical value, and estimate their combustible value accordingly.

The combustible value of aliments has not, so far as I am aware, been set forth in a tabular form, in relation to the amount of heat evolved by each during combustion, though some results are given for carbon singly. In the following table the result is given for *carbon and hydrogen conjointly*. The table is calculated upon the mean in both cases of ten experiments made by different observers.

The following parts of water are heated one degree by the combustion of one part of

Hydrogen in the formation of water.	Carbon in the formation of carbonic acid.
Despretz 20624	Despretz 7815
Ditto 23640	Ditto 7912
Lavoisier 21375	Lavoisier 7237
Dalton 24000	Duborg 7167
Duborg 34743	Dalton 3000
Hesse 34792	Rumford 5325
Crawford 36000	Crawford 5175
Grassi 34666	Grassi 7714
Farre and Sulbermann 34662	Andrews 7900
Andrews 33808	C. D. 7012
Mean 29831	Mean 6625

Whence we learn that if the combustion of one part of carbon raises the temperature of water one degree, the combustion of one part of hydrogen will raise it 4·5 degrees.

Table of Combustive Equivalents.

Wheat, dried, C. 46·1 and H. 5·8, yielding 478442 units of heat=100.

(b. c., by calculation. n. s., natural state.)

Turnips, n. s. 1554	Extract of milk..... 121
Cow's milk..... 834	Crystallised citric acid..... 121
Ox blood 351	Rice, by calculation, n. s. 119
Potatoes, n. s. 351	Dry Lentils 116
Caseine, n. s..... 343	Wheat flour 115
Fibrine, n. s..... 343	Malic acid 114
Albumen, n. s. 336	Beans, dry 112
Fresh meat, free of fat, n. s. 325	Asparagine 112
Crystallised tartaric acid..... 179	Creatine 111
Formic acid 163	Wheat bran, best, b. c..... 111
Extract of milk..... 133	Average wheat bran, dry, b. c. .. 106
Fresh bread, white, made with average wheat, assuming 280lbs. wheat flour=320lbs. bread, and 115lbs. wheat, n. s.=100 dry .. 128	Narbonne honey 106
Tartaric acid 144	Turnips, dry 106
Best bran, by calculation 139	Arrow root..... 106
Average wheat bran, ditto, n. s. .. 137	Peas straw, dry 105
White bread, b. c..... 128	Hay, dry 105
Black bread (Playfair), No. 1.... 126	Starch from wheat 104
Ditto, No. 2 124	Beet root, dry 104
Rye bread, b. c. 126	Anhydrous malic acid 104
Anhydrous citric acid 124	Crystallised sugar 104
	Impure sugar candy..... 102
	Crystallised sugar..... 105
	Red clover stalk, dry 102

Table of Combustive Equivalents, continued.

Acetic acid.....	102	Albumen of blood, ditto	85
Rice, b. c., dry	102	Roasted flesh, roe deer	84
Creatinine	101	Fibrine of ox blood, dry	82
Grape sugar		Albumen of eggs, ditto.....	
Beet root sugar		Caseine from cows' milk	81
Maple sugar		Lactic acid.....	83
Pure sugar candy		Biscuit, b. c.	78
Yellow peas, dried 212°	100	Butyric acid	75
Arrow root 212°		Piperine	71
Starch from wheat		Biberine.....	77
Starch, dried 350°		Brain, n. s.	69
Lichenine		Alcohol	68
Gum Arabic	100	Quinine	
Milk sugar		Cinchonine	65
East India sugar		Cerebric acid.....	62
Refined ditto		Capric acid	59
Cane sugar		Elain of olive oil	56
Wheat straw	97	Walnut oil	
Wheat, dried at 230° ¹		Brain, dry	55
Rye, ditto		Mutton suet	
Rye flour, b. c., dry		Almond oil	54
Pectine		Margaric acid.....	
Indian meal, dry	98	Train oil	51
Caffeine		Oleic acid	
Theine		Fatty oil from maize	50
Ordinary gum		Hogs' lard	
Oat straw	97	Oil of fat	53
Potatoes, dry.....	96	Palmitic acid	52
Lignine, dry	96	Olive oil	
Rye straw, dry	95	Beeswax.....	51
Peas, dry.....		Spermaceti	51
Theobromine	93	Stearic acid	50
Oats, dried.....	90	Margarine	
Chondrine, dry	88	Caproic acid	40
Gelatine from isinglass, ditto ..		Butter	
Tendons of calves' feet, ditto ..			

Thus we find that fresh meat, which has the highest equivalent as an incombustible proteinaceous aliment, has the lowest equivalent among combustible aliments. This relative value is not without its importance. The extraordinary appetite of the natives of cold climates, as compared with those of the more temperate, is made hereby susceptible of explanation. Ten pounds of flesh and oil is not an unusual quantity for an Esquimaux to devour in twenty-four hours, besides drinkables. The very coldness of the temperature requires a larger amount of duty to be performed by the lungs; besides, the capacity of the chest is, on an average, the same in all climates. The atmosphere, however, expands by heat, and contracts by cold; moreover, in very cold air there is an absence of moisture, which abounds in hot. It must needs be, therefore, that a given volume of air inspired in a cold climate must contain absolutely more oxygen than if inspired in a hot climate; more combustible aliment, more *fuel*, so to say, must be

¹ Thus, wheat dried at 230° contains 46.1 parts of carbon and 5.8 parts of hydrogen per cent. Therefore the heat evolved by the combustion of 46.1 C + 5.8 H = 46.1 × 6,626 + 5.8 × 29,831 = 305,412 + 173,039 = 478,442; upon which number, being considered as equal to 100, so as to put the whole in a per centage scale, the other equivalents are calculated.

therefore consumed, by reason of the greater quantity of oxygen; and, secondarily, to keep up animal heat. It is a matter of common experience, that the appetite is keener in cold than in warm weather; indeed, bakers and butchers have practical knowledge of this in the larger stock of provision prepared in winter as compared with summer. The converse proposition is equally illustrated in the familiar proverb, "The south wind always blows after dinner". Providence seems, in like manner, to have pointed out that, in warm climates, less combustible food is required. The fruits in these countries contain only about 12 per cent. of carbon, and 2 to 4 per cent. of hydrogen. On the other hand, the fat, blubber, and oily food, on which the inhabitants of the snowy regions subsist, contain 70 to 80 per cent. of carbon, and 10 to 13 per cent. of hydrogen. Thus is again exemplified the supreme wisdom of the Creator, who placed at the disposal of man, according to the climate each inhabited, those articles of food most appropriate and necessary to his existence; and it is chiefly when he transgresses in selecting food not of a kind adapted to the climate in which he resides, that disease results. Hepatic derangement, or diseases arising from excess of carbon in the system, are most common in summer and in tropical climates, because this excess is not consumed in the lungs. Pulmonic disease, on the other hand, is more frequent in winter, from a diminution of hydrocarbon, and an excess of oxygen.

From the foregoing considerations, the following conclusions may be drawn, that, 1. Food to support life must consist of nitrogenous, mineral, and combustible elements. 2. The quantity of the latter must be proportionally large in cold climates as compared with warm.

Thus, to determine the quantity of food necessary to support life, and the relative proportion of each class of aliment, comes to be almost impossible. It must vary with the climate, sex, age, occupation, etc. Take, for instance, the amount of bread allowed to a soldier in different parts of Europe.

France	wheat	12 oz.
Sardinia	ditto	11·7 „
Spain	ditto	10·7 „
South Germany, 1-6 wheat, 4-6 rye, 1-6 barley	. . . . .	14·3 „
North ditto	rye	16 „
England	wheat	12 „
Belgium	ditto	12·4 „

It has, again, been stated that a healthy adult on the continent will consume above 800 lbs. of oxygen, during respiration, in one year; and assuming that, on an average, he consumes 3 lbs. of food daily, this would make a totality of about 1,900 lbs., and yet his weight would probably remain unchanged at the end of this period. But this proportion would be greatly increased in cold climates, and diminished in the tropics. I shall therefore confine myself to answer the question for this country only.

All physiologists seem to have admitted the truth of Prout's proposition, that milk is the best model we have of food. Thus milk contains both combustible and incombustible aliment, and is capable of supporting life for any length of time. The composition of milk may be stated as follows:

Casein . . .	4.48	or nitrogenous matter . . .	4.48
Butter . . .	3.13	nearly equivalent in fat, or	
Sugar of milk	4.77	combustible matter . . .	6.13
Salts . . .	.75	salts . . . . .	.75
Water . . .	86.67	water	86.67

—100

In hospital milk-diet the usual allowance is, two pints of milk to twelve ounces of bread. Few persons, however, could, on an average, consume more than seven pints of milk, if restricted to this article alone, in twenty-four hours. This would fix the following as the absolute and relative amount of food consumed :

Casein, or nitrogenous matter	5.01 oz.
Fat, or combustible matter	6.86 „
Salts, or mineral matters . . . . .	.84 „
Water	96.92 „

Two pounds of flesh, or two pounds of bread, would contain a quantity not very different; the former, however, not containing fat.

Fibrine and albumen	6.20 oz.	Fibrine and albumen	6. oz.
Equivalent in fat	— „	Starch & sugar, equivalent in fat	11. „
Salts . . . . .	.64 „	Salts . . . . .	.60 „
Water	25.6 „	Water	7.4 „

Speaking practically, however, if we consider that all butchers' meat contains more or less fat, it may be concluded that 2 lbs. of meat, 2 lbs. of bread, or seven pints of milk, are almost equivalent quantities. Thus the army regulation, which allows each soldier three quarters of a pound of meat, and as much bread, is not too small a quantity when we take into consideration the other articles of food procured, such as cocoa and vegetables, and liquor. But the proportion given to the navy appears almost more than sufficient :

	Weekly.	Daily.	Weekly.	Daily.
Bread	112 oz.	16 oz.	112 oz.	16 oz.
Meat (fresh)	112 „	16 „ (salt)	84 „	12 „
Vegetables	56 „	8 „	— „	— „
Flour	— „	— „	42 „	6 „
Peas	— „	— „	29½ „	3½ „
Oatmeal	5 „	5-7 „	5 „	5-7 „
Sugar	10½ „	1½ „	11½ „	1½ „
Cocoa	7 „	1 „	7 „	1 „
Beer	7 gallons.	1 gallon.	7 gallons.	1 gallon.
Vinegar	½ pint.	22-7 „	½ pint.	22-7 „
Tea	1¼ oz.	¼ oz.	1¼ oz.	¼ oz.

In as far as the articles, fresh and salt meat, are concerned, there is error, and the remark applies equally to our army supplies, where the same weight of each is given. The amount of nourishment contained in salt meat is less than that contained in fresh meat, from the abstraction of juice of flesh in the former.

It will be well to speak of these several aliments specially, under three heads: of bread, as representing the perfection of food as derived from the vegetable kingdom; of meat and its substitutes, extract meat and blood, as representing the best kind of food to be derived from the animal kingdom; of milk, or rather the extract of milk, which may be looked upon as representing a quality of food intermediate between the two former.

1. Bread, like meat, contains (vegetable) albumen and fibrine,—the nitrogenous element of nutrition; starch and sugar, the combustible elements, for respiration; salts, the mineral ingredients, to keep the former in such a state of solution or preservation to serve the purposes of the economy. The composition of white bread, exclusive of salts, is as follows in 100 parts :

Starch	68	Veget. albumen, 15
Gluten	24	Gummy sugar . 5

The salts vary in different varieties of grain, and necessarily in different kinds of bread. In 100 parts of ashes, a mean of thirty-two analyses gave 46 of phosphoric acid, and 49·57 of alkali and alkaline salts. In one specimen, however, from Leipsic, analyzed by Schmidt, there was as much as 60 per cent. of phosphoric acid; in one from Egypt, by Way and Ogsden, there was as much as 52 per cent. of alkali and alkaline earths. "The finest American flour is richest in gluten. Rye contains a substance resembling starch-gum in its properties, *dextrine*, as it is called, which is easily converted into sugar. The starch of barley represents cellulose, and is therefore less digestible. Oats are very rich in plastic matter" (14 to 18 per cent., sometimes as high as 22 per cent.), "especially Scotch oats, which contain in the ashes, after deducting the silica of the husks, very nearly the same ingredients as are found in the ashes of meat." (*Liebig*.)

It is evident, therefore, that according to the grain with which the bread is made, so must its value as an aliment be estimated.

Black bread is capable of supporting life for an indefinite period, and, in this sense, it is more nourishing than white bread. The experiments of the French academicians proved, that dogs fed exclusively on pure white bread, died in a few weeks, with all the symptoms of starvation; whereas the coarse brown bread proved both nourishing and fattening. Again, the analyses of Thomson give, for white bread, a nutritive equivalent of 113; and for black bread 100; that obtained by calculation from Playfair, is 108. In either case, it appears white bread contains less plastic matter than black bread.

Again, according to Playfair's analysis, black bread has a combustible equivalent of 126; white bread has one only of 128. White bread, therefore, is inferior, as a combustible aliment, to black bread, though not to the same degree. These results can, however, only be regarded as approximative, nor in any way to justify the general conclusion that, in all cases, white bread is inferior to black bread. The following table in some measure explains the reason of this disparity :

COMPOSITION OF	Wheat, Mean 7 expts.	Average Bran. (Johnson)	By Cal- culation. White Bread.	Black Bread, made with a preparation of 21·3 pts. Bran in the Flour.
Starch	39·9	—	44·4	31·6
Starch, with husks..	—	55·6	—	9·2
Gluten	14·8	—	13·8	9·2
Albumen	—	19·3	—	3·2
Sugar	19·1	—	—	12·0
Gum			16·7	
Woody fibre			—	
Fat or oil	—	4·7	—	0·7
Salts	1·6	7·3	1·4	2·3
Water	12·4	13·1	23·7	31·8

Whence it would appear that whatever change it may have undergone in the process of baking, white bread contains, in reality, very little more nitrogenous, *i.e.* about 1·4 per cent. more than an average black bread, but less combustible matter, and a much smaller quantity of *salts*; to which latter cause is probably specially due the fact, that pure white bread, singly, will not suffice to support life. The above calculations have been made on the supposition, that 280 lbs. of good wheaten flour will yield 320 lbs. of bread; whereas flour containing about 21·3 of bran, the average quantity in black bread, will yield 336 lbs. of black bread. To add a larger quantity of bran does not apparently increase the quantity of bread, for although, by so doing, more dough (by the larger quantity of water absorbed) is made, still in baking it loses the water more readily.

There is another circumstance which renders white bread, as an alimentary substance, inferior to black bread. In many cases, by way of facilitating the separation of the husk from corn, the latter is moistened. If this moisture is not, by a subsequent process, removed effectively, the flour becomes musty. To correct this defect, bakers have been in the habit of adopting one of two plans, both of which have the additional advantage of rendering the bread peculiarly white,—sulphate of copper, an acrid poison, being added, or alum. The late revelations of the Sanitary Commission of the *Lancet* have shewn to what an extent this practice is carried on in London. The bread is, by this process, deteriorated in its sanguific value; the phosphate of alumina, an insoluble salt, being, as Liebig informs us, formed, and the phosphoric acid, so essential to the system, not assimilated. It is probably chiefly to this cause that the so-called pure white bread is insufficient in itself to support life; and, as again suggested by Liebig, this circumstance will probably explain the reason that foreigners find English bread so indigestible. To the soldier or the labouring man, the black bread would seem, therefore, to be preferable in every way. To the former, in time of war, it is, besides, most easily procured.

The same plan, which is the only efficient means of saving for a large community in times of scarcity, is also the best to adopt, even in more prosperous periods. Liebig informs us that, in many parts of Westphalia, the entire meal, including the bran, is baked in a species of brown bread called the “pumpernickel”; and he adds, that there is no country where the digestive organs in a population are more healthy.

Other means have, however, been suggested. In the experiments of the French Academy, gluten was found to be alone capable of supporting life. We have already explained the reason of this to be its impurities; but as it occurs seldom, if ever, in commerce in a pure state, it must be looked upon as one of the most nutritious of the ordinary vegetable substances prepared. Liebig has directed attention to a source whence it may be procured in large quantities, and, at the same time, at a very cheap rate. In England, many cwts. of the best and finest flour are employed in the manufacture of cotton goods; the starch being extracted for dressing these, while the gluten, which forms the refuse, is for the most part lost for the food of man. This gluten constitutes from 12 to 20 per cent. of the weight of the dry flour; and, used in combination with flour of inferior quality, it is clear it would form a very excellent and highly nutritious bread. (*Liebig's*

Letters.) Gluten bread, which is used for diabetic patients, mixed with but one-sixth part of starch only, is tolerably light, and moderately agreeable. (*Liebig's Letters*.) No doubt, therefore, an immense quantity of bread might be prepared from this source alone in England, and our manufacturers, with their cry of cheap bread, ought to produce us this requisite from what they waste.

There is yet another source whence a large quantity of bread might be obtained. Schlossberger made a trial of malt-dough (maltzteig), or upper dough (oberteig), of beer breweries, as recommended by Essig of Leomberg, as a substitute for flour. By these terms is understood, as is well known, the dough-like mass which is deposited upon the grains in the process of washing, and which is formed from the mealy portion of the malt. It contains from 4 to 7 per cent. of starch, and from 3.9 to 4.8 per cent. of nitrogen, indicating a much larger quantity of gluten than is contained in flour, and a considerable quantity of phosphates. (*Liebig and Kopp*.) This forms, in every respect, an unexceptional bread.

Rye bread, prepared with an addition of malt-dough, was found to contain from 3 to 4 per cent. of nitrogen, and from 50 to 52 per cent. of water. The bread appeared to keep well, and had not the slightest unpleasant taste (*ibid.*). The breweries of Bavaria alone produce 30,000 cwts. of this malt-dough annually; and 7 lbs. of it afford, according to Essig, 4 lbs. of bread. (*Knapp, quoted by Liebig*.) It is a question whether, in government contracts for bread for the troops, this should not be taken advantage of, whereby a cheaper kind of bread, and one containing nearly one-third more plastic matter, would be obtained. Its equivalent would probably be somewhere between 70 and 60, instead of 100 to 120; between which limits ordinary bread may be supposed to range.

Excellent edible bread might be procured, in many different ways, by the combination of peas, potatoes, and various less rich kinds of grain. The composition of each ingredient should be known, and where there is a deficiency in nitrogenous, combustible, or mineral ingredients, this might be remedied by the artificial addition of the required material. The ingredients might be, perhaps, more easily obtained from the animal kingdom. Thus it appears rational, in a case where we have a deficiency of salts and nitrogenous matter, as with many of the inferior sorts of grain, to add directly animal albumen or fibrine, it may be the serum of blood. The bread would then be very nourishing, and the material obtained from a comparatively cheap and abundant source; and, to the taste, there is reason to believe the bread so produced would be infinitely more agreeable than that sometimes formed by the admixture of oil-cake, or the raspings of hides. With vegetable admixtures, it is important to notice one fact,—the great advantage derived, in point of nutriment, by drying the vegetable substance before admixture. Take, for instance, the white garden cabbage. In its natural state its nutritive value is very low, its equivalent being 810; when dried at 212°, however, it is 95,—positively higher than wheat. Turnips, in like manner, in their natural state, have an equivalent of 1554; in the dry state, 106; and, in the subsequent admixture, they do not reabsorb as much moisture by a good deal, as they possessed originally.

An aliment which requires notice in this place, is the biscuit. Biscuit is much more nourishing, in every respect, than bread; this must needs be, since 100 lbs. of flour yield 132 lbs. of bread, but only 90 lbs. of biscuit. The principle in baking biscuit seems to be, to get rid of as much water as possible, so that, in relative proportion, the amount of both combustible and incombustible matter is increased. In this manner an aliment is produced far superior to bread in many respects. That prepared by the commissariat abroad, where means are adopted to get rid of the water by compression with heavy weights, at the same time as the thorough admixture of the mass is ensured, is unexceptionable; and biscuit so prepared will keep for years. It might be laid an indefinite time in simple barrels.¹

From what has preceded, the incorrectness of Dr. Prout's views on the value of bread made with lignine is at once apparent. If lignine be digestible, it can only be so when in a very minute state of division; but as it does not contain any nitrogen, it cannot support life. The following is the composition of lignine:

Willow lignine, ordinary temp.	42.7	carbon	.	57.3	hydrogen.
Ditto, at 300° to 350° F.	42	"	.	57.4	"
Box, at ordinary temp.	50	"	.	50	"
Ditto, at 300° to 350° F.	49.8	"	.	52	"

Whence it appears that lignine, at best, can only be reckoned as a combustible aliment, if an aliment at all, by probable conversion into sugar. Pereira, however, does not believe this; as the husk of fruit, which is lignine in a minute state of division, is indigestible, and seems only to act as a slight laxative. If, therefore, the lignine has nourished animals at all to whom it has been given, it can only have done so from the presence of starchy saccharine, or other alimentary matters intimately mixed with it, and from which it had been but imperfectly separated.

II. In reference to meat and its substitutes, the extract of meat and preparations from blood, it may be said, generally, that the alimentary properties of these are greater than those of bread. Playfair has shown that the compositions of dried meat and blood are identical. In the natural state, however, this is not exactly the case. Muscular flesh always contains an excess of acid, that acid being phosphoric acid: blood, on the other hand, contains an excess of alkali; but the acid may consist in great measure of carbonic acid, instead of phosphoric acid, if the food have been green vegetables, fruits, etc.

Meat may be considered as the essence of vegetables, its nutritive qualities being more concentrated, if I may use the expression; in evidence of which, apart from its chemical analysis, we have the anatomical conformation of the intestinal canal in carnivora, by the very reason that their food requires less digestion, much shorter than in the herbivora. Meat has a nutritive equivalent of 48, wheat being 100, in its dried state 15, so that in its natural state it may be considered as more than twice, in its dry state nearly seven times as nutritive as wheat. In its purely lean state, as a combustible equivalent, it is

¹ The nutritive equivalent of biscuit is 87, the combustible 78, in both cases much higher than bread. But by increasing the quantity of gluten, or using the malt dough, even the nutritive and combustible equivalents might be increased, so as to equal probably the richest animal productions.

nearly expressed by 325, wheat being 100, and therefore rather more than three times less valuable in this respect than wheat. In its dry state, however, it is superior to wheat, being 88, while wheat is 100.

The subject of preserved meats has lately been so prominently before the public, that it can scarcely be passed over in this place. Indeed, the revelations of the daily journals, and the government board of inquiry, have sadly poisoned the public mind against their employment. The subject, however, now appears in a different light before us, having lately been so lucidly explained by the editor of the *Medical Times and Gazette*; to whose leading article I cannot forbear alluding. It would appear that the utmost that can be urged against Mr. Goldner is a little carelessness, if even that. In a late return, moved by Mr. Miles, it is stated, 2,741,988 lbs. have been issued to the navy, since the contract with Goldner, up to January 7, 1851. Out of this number, 2,613,069, or 95 per cent., have proved fit for use, only 19 being rejected from containing so-called offal (which was, however, only undigested food); the remainder were so from the putridity of their contents: the price at which these were issued being 5d. per pound, and we are informed by the editor that the same could now be supplied at 3d. per pound. There is nothing repugnant in pieces of heart, roots of tongues, palates, or liver, which some canisters contained. Many esteem these as luxuries. The putridity of the meat in others is rather to be attributed to the carelessness of those who stored them away in Her Majesty's ships. To knock about the canisters, the contents of which only could have remained good so long as a vacuum surrounded the meat, was precisely the way to admit the atmospheric air: and, further, to expose iron canisters, which in parts might have been inadequately tinned, in damp situations, was the best method to insure the rapid rusting, subsequent breaking down of the canisters, the consequent admission of atmospheric air, and the rapid putridity of the meat. And yet the process is one which is, after all, most simple; and the boon thereby conferred on our navy especially, or it might be on our poor, in lieu of salt meat, and many other less nutritious articles of food, is immense.

It is the peculiar property of all organic substances to putrify when exposed to an atmosphere containing oxygen, not too cold in temperature, and not such as to freeze the meat. This process of putrefaction is, after all, one of fermentation, under the influence of which the elements of these organic substances undergo the chemical changes which were, during the life of the animal or vegetable, impeded by *vitality*. This fermentation, however, is prevented, indeed annihilated, by heating the substance to the boiling point. Most ferments have a constitution analogous to albumen, and at a higher temperature pass into a new state. The process is thus described by Liebig: "The prepared aliments are enclosed in canisters of tinned iron plates, and covers are soldered on tight, and exposed to the temperature of boiling water. When this degree of heat has penetrated to the centre of the contents, which it requires about three or four hours to accomplish, the aliments have acquired a stability, which we may almost say is eternal. When the canister is opened, after the lapse of several years, the contents appear just as if they had been only recently enclosed. Housewives make use of this method in preserving green vegetables through the

winter. This method of preserving food will become of the greatest importance in provisioning fortresses, since the loss incurred in selling off old stores, and replacing them by new, is far more considerable than the value of tin canisters, which, moreover, may be repeatedly employed, by being carefully cleansed." (*Liebig's Letters*, p. 228.)¹

It has been well remarked by the editor of the *Medical Times*, that although there may be some blame attached to Goldner, in some minor points, still he is entitled to our thanks, for having directed attention to this source of procuring a most useful article of consumption, and one well calculated to do immense good to thousands of our fellow-creatures. For when we look at the large supply that may be obtained from Moldavia, and the cheap price at which it may be purchased, it is no small advantage gained to be able to avail of it. The editor informs us that the meat of the oxen and cattle which abound on the Danube in Moldavia, costs absolutely nothing on the spot, as the price obtained in Turkey for the hide, horns, hoofs, and tallow, more than pays for the value of the animal. (*Medical Times and Gazette*, p. 265, No. for March 13, 1852.)

A plan has been lately recommended by the French, which it is supposed, might be advantageously employed in the preservation of meat. The vapour of chloroform, unmixed with air, is perfectly antiseptic: as such, it might be very easily superadded to the plan usually followed, and substituted for the vacuum around the meat. Mr. Richardson, of Mortlake, has likewise made the ingenious suggestion, in a communication read before the Medical Society of London, of substituting nitrogen in lieu of the vacuum around preserved meats. The specimens of pathological preparations so preserved, appeared perfectly unchanged after a lapse of several months. It remains yet to be proved, if the experiment will prove equally successful for years. In so far, however, as the abstraction of oxygen is concerned, this is well effected, either by the substitution of the vapour of chloroform or nitrogen.

The remarks above made for preserved meats, apply with equal force to preserved vegetables. The advantage in a sanitary point of view would be immense, since it would effectually remove that scourge among mariners, scurvy; which, even in the present well-devised improvements in the navy, has not been yet thoroughly eradicated. The experiment has already been tried, in the expedition in search of Sir John Franklin, with potatoes, and proved perfectly successful.

¹ The ingenious Soyer has already offered his opinion on this process, and few, as proficients in the culinary art, are better able to offer one than he is. His suggestions are so simple and valuable, that I shall be pardoned for bringing them prominently forward. 1. The meat selected should be good of its kind, and the preserved should not, if it were possible, be prepared in summer. 2. The meat should not be too fresh, but allowed to cool before submitted to the process for preserving. 3. Each canister should not contain more than six pounds of meat, and as many ounces of fat. 4. The contents of each canister should be slightly seasoned with the following ingredients:—bay salt, pepper, thyme, bay-leaf in powder. 5. No other vegetable but a few sweet herbs should be used, which will give a good flavour without provoking fermentation, and no jelly be added to the meat, which should be left to produce its own gravy. 7. Every part of the atmosphere should be allowed to escape while under the process of ebullition in the bath, till the vapour has finally ceased to ascend through a small pin-hole left for that purpose, before the canister be finally sealed.

It is unfortunate, then, for the British government, that the preparation of these stores had not been rather placed under its own superintendence; and that a wish, otherwise laudable, not to interfere with private commercial speculations, should have proved in its application so unfortunate. There might have been at the onset some additional expenditure, yet in the end a real saving; and it would seem but natural to conclude that, in such an arrangement, justice would more certainly have been rendered to the government by their own officers, than by commercial speculators here; who, however honest in their intentions, could exercise no control over those on whose good faith they were compelled blindly to rely.

1. The advantage of meat over vegetable food is, as we have seen, that it contains in a given weight much more nutritive matter; meat being, as it were, the essence of vegetables. An essence or extract of meat would thus contain, in a still smaller weight, all the nutritive properties essential to the maintenance of life; and, if mixed with a little fat, all the nutritive and combustible properties to be desired. Unfortunately, a complete extract of meat, which could be redissoluble in water, cannot be easily made, owing to the insolubility of its fibrinous elements.

The following account, abbreviated from Knapp and Liebig, is subjoined, as explanatory of these changes. When flesh is very finely divided, and repeatedly extracted with cold water, all the soluble matters are removed, and a perfectly tasteless, inodorous, residue is left, which is in every case white like flesh. When boiled, a precipitate is thrown down, which is coagulated albumen. It consists besides of lactic acids, inosinic acid, creatine, creatinine, a nitrogenous organic acid, which forms a pellicle on the surface like casein, though differing from it in many other respects. There are several other constituents, not very clearly made out, besides lactates of potash, phosphates, especially of the alkalis, a little lime, more magnesia.

Dried flesh will, on an average, yield only from 12 to 13 per cent. of extract of meat. (*Liebig*.) 100lbs. of ordinary meat, (*i. e.*, not dried), therefore, will yield 4 lbs. of extract of meat; since 75 per cent. at least of the meat is water.

By lixiviation of dried meat with cold water, from 16 to 24 per cent. of it is taken up, and what remains behind, or fully three-quarters of it, is *fibrine*. In the process of boiling, the albumen coagulating at 133°, and the colouring matter at 158° Fahr., these two substances are removed. The proportion of albumen varies from 1 to 2 per cent. in old animals; but in young animals it may vary from 12 to 14 per cent. (*Ibid*.)

In making the extract, therefore, it is desirable that the temperature should not be raised, either of the water during lixiviation, or of the juice of flesh which is evaporated, beyond 120° Fahr.: and in this manner about 20 per cent. will be, on the average, the quantity furnished by the dried meat; 6 per cent. by ordinary fresh meat, the whole albumen and colouring matter being retained.

The extract prepared by Mr. Robertson, of Manchester, is made upon this principle. It consists entirely of the albuminous and saline portions of the juice of flesh extracted cold, and by a peculiar arrangement of the evaporating process, obtained in the form of a dry powder,

with a very limited application of heat. It is estimated that one ounce of this dried extract contains the whole of the nutritive properties of one pound of solid meat; a statement which is probably in some measure exaggerated, if we look to the explanation above given of Liebig's process as correct. (*Lancet*, 1852, for Jan. 7, 10, and March 27.) The disadvantage of this extract is in the entire removal of the fibrinous portion of the meat, and in the diminution of salts. The whole of the flesh might, however, be appropriated. Fibrine, when separated from blood in its natural state, possesses the characteristic softness and elasticity of flesh, and contains about three-fourths of its weight of water. It may, however, be artificially deprived of its water, and then becomes a hard and brittle substance; in which state it may be ground and reduced to powder. By the incorporation of this powder, intimately mixed with the extract, and in proportionate quantity, we shall obtain an artificial meat, as it were, differing from meat only in the smaller bulk it occupies, from the absence of water; four ounces of which would be equivalent to one pound of meat.

2. Fibrine, in its ordinary state, is insoluble in water; when boiled, however, for a long time, under water, its nature is altered, and it becomes soluble. Mixed with the juice of flesh in this state, it might be easily incorporated with it.

3. There is another way in which this desideratum in the extract of meat might be obtained. We have seen that while fibrine, casein, and albumen, are identical in chemical composition, and readily convertible one into the other, fibrine is, of all three, perhaps the most indigestible. The substitution of either of the other two proteinaceous substances, might in this manner prove very beneficial. The serum of blood is at once a source whence albumen might be derived in large quantities, and at a very cheap rate.

4. By the addition of the gluten from flour, before spoken of, a substitute for the fibrine could be made; and gluten, as obtained in commerce, is of all simple substances, that which is capable, even when given alone, to support life.

An intermediate course would be, to add pemmican or the raspings of dried flesh to this extract.

These varieties of extract of meat might be distinguished under the names of the *fibrinised*, *albuminised*, and *glutenised* extracts. The extract, without these additions, as the *simple* extract.

The simple extract of meat, obtained after lixiviation with cold water, has the same composition in all animals, whether it be prepared from pork, beef, venison or poultry, excepting only that each preserves the peculiar flavour of the animal whence it was procured. This fact is not without importance in its application. Many animals, hitherto rejected for alimentary purposes, might be employed in times of scarcity. The toughness of the flesh in many of those which are usually not eaten for this reason, depends on the fibrine present, and which constitutes the chief ingredient of their flesh. A judicious admixture of the extracts of meat from several different animals might be made, the various flavours of which might be covered with a larger quantity of one of those usually most in favour, such as hare or venison, and in this manner the extract made be palatable, cheap, and nutritious.

"But even the simple extract contains the several conditions necessary for the formation of the whole muscle; since in the albumen we have the transition product to form the fibrine of the muscle, and, with other products, the matters required for the production of cellular tissue." (*Liebig*.) These remarks apply with equal force to the fibrinised and albuminised products; besides, most of the constituents of extract of meat are very rich in nitrogen, kreatinine, and kreatine; of which substances, two, we have seen, are highly nutritious, 9 parts of the former, and 6 of the latter, being equivalent to 100 parts of wheat.

The simple extract of meat is probably slightly inferior to meat in salts. The difference in the latter is well set forth in the following table from *Liebig*.

	Ashes of flesh (dry).	When heated, there enter in the soup.	And there remains in exhausted meat,
Phosphoric acid . . .	36·60	26·24	10·36
Potash	40·20	35·42	4·78
Earth and oxide of iron	5·69	3·15	2·54
Sulphuric acid . . .	2·95	2·95	
Chloride of potassium .	14·81	14·81	
	<hr/> 100·25	<hr/> 82·57	<hr/> 17·68

The soup contains 0·46; the residue, 1·42 of phosphate of iron. The addition of the serum of blood, so as to constitute an albuminised extract of this soup, would at once, by the addition of the salts required, make the extract, in this respect, equal to meat.

The great advantage to be derived from extract of meat by the hospitals of armies, has been strongly urged by *Liebig*, but, it is to be feared, without attracting the attention of our government. "In the supplies of a body of troops," says *Parmentier*, "extract of meat would offer to the wounded soldier a means of invigoration which, with a little wine (the combustible element), would instantly restore the powers exhausted by great loss of blood, and enable him to bear being transported to the nearest hospital." "We cannot," says *Proust*, "imagine a more fortunate application. What more invigorating remedy, what more powerfully-acting panacea, than a portion of genuine extract of meat dissolved in a glass of noble wine? The most *recherché* delicacies of gastronomy are all for the spoiled children of wealth; ought we, then, to have nothing in our field hospitals for the unfortunate soldier, whose fate condemns him to suffer, for our benefit, the horrors of a long death-struggle amidst snow, and the mud of swamps?" (*Liebig's Letters*.)

Apart, however, from its use among the sick, it might prove of singular advantage to the soldier in many harassing marches, combined with alcohol or oily matters; and this remark applies with double force to the other varieties before alluded to. The amount of extract of meat that could be procured, and made subservient to the purposes of mankind, is something extraordinary. *Liebig* has drawn attention to the nominal value of meat in Podolia, Buenos Ayres, Mexico, and Australia, where thousands of cattle and sheep are boiled down to obtain the fat, the nutritious part of the meat being absolutely thrown away as useless. I have made the calculation for Australia:

upwards of 700,000 lbs. of simple extract might be annually preserved, or enough to keep an army of 30,000 men for a year; or, if the fibrinous or albuminized extracts were preferred, as much as 83,000,000 lbs. might be procured, or enough to keep an army of 360,000 men for a twelvemonth,—the ration being fixed at the rate of 10 oz., as the equivalent of 2 lbs. of meat. It is hoped, in this way, it might be obtained at a less exorbitant rate than that at which it is offered at present for sale, viz. 8s. a pound.¹

An excellent combination of the extract of meat and biscuit would be found in Borden's patent meat-biscuit: 1 lb. of this substance, it is alleged, contains the nutriment of 5 lbs. of the best beef. Its preservative qualities have been fully tested by its being carried to California, across the plains, from New York to Canton and back, and other long voyages. The reports from Colonel Sumner and Surgeon Wright, of the United States' army, fully confirm its value as a nutritive agent. The opinions of Colonel Sumner, in so far as they apply to the advantage of this article for the supply of an army, are of so much practical value, that I may be excused for referring to it. From experiments upon himself, in which he restricted himself, for successive days, to this article, he concluded he could live upon it for months. He, however, could not use more than 4 oz. a day, made into soup, adding only pepper and salt, and was able, besides, entirely to dispense with tea and coffee:—"I have long thought," he adds, "*that the compression of food into a smaller compass, was one of the most important things that remained to be discovered in this age of inventions. Think of a regiment of 500 men cutting loose from all magazines for two months, with no other baggage than fifty or sixty packed mules, at 5 oz. a day for each man; the weight would be 9,375 lbs., which forty-five mules would carry.*" (*Lancet*, 27th March 1852.)

Assuming the statement here made, that 1 lb. of the meat-biscuit is equivalent to 5 lbs. of meat, this would give a nutritive equivalent of 14, and a combustible of 65; yet, theoretically, a meat-biscuit of even greater nutritive and combustible value might be procured. Assuming the biscuit to be prepared from the upper malt-dough, its nutritive value would be 61 instead of 87; mixed in equal quantities with Robertson's extract of meat, it would yield a variety of meat-biscuit with a nutritive value of 32·7, *i.e.*, admitting the estimate of the value of the extract to be in the proportion of 1 oz. to 1 lb. of meat. In so far, however, as this rude calculation goes, there is, perhaps, reason to believe this statement of the nutritive value of Borden's meat-biscuit is exaggerated, unless, indeed, the proportion of extract of meat in the meat-biscuit be much greater than has been supposed. Besides, the Analytical Commission of the *Lancet* remarks, that the nutritive portion of the meat is extracted by heat, and that they are unable to

¹ The annual number of animals slaughtered in Australia is estimated at 96,000 sheep and 187,000 cattle. The weight of this quantity may be stated as follows:—96,000 sheep at 40lbs. each, 187,000 cattle at 400lbs.=748,384,000lbs. Deducting two-thirds for fat, bones, etc., we have 249,461,000lbs, which are equivalent to 83,000,000lbs. of the fibrinised extract, or 700,000lbs. of extract of meat. Fixing the ration at 10oz., the latter would make 11,200,000 rations, or enough to feed 30,900 for a year; the former would make 83,000,000lbs., or 132,800,000/ rations, or enough to feed 363,000 men for a year.

state if the whole albumen is retained or not. In the latter case, its nutritive value would be diminished.

III. Prepared blood is an expression which might sound peculiarly offensive to some; and, it may be, create among a few a sort of religious objection, since by the Levitical law the blood of animals, by the Christian, of strangled animals, was forbidden to be eaten. Without wishing to enter upon the controversy at present, it may be presumed that where we have a composition in the dry state identical with that of meat, and in its natural state differing only from meat in possessing an excess of alkali instead of acid, in a Christian and enlightened land like this the objection can scarcely hold; especially as in the process of preparation, chemical and physical changes are brought about, by reason of which it can scarcely again be considered as blood.

The only aliment which we are in the habit of preparing from blood in Europe is the ordinary black pudding. This article of food is usually prepared by boiling grits in water, and then draining: hog's blood is then added, and intimately mixed with the grits. The whole being then duly seasoned with spice, fat is added. The liquid is then poured into skins, which, closed at both ends, are perforated with pins and boiled for an hour.

In this process it is clear the whole nutritious matters of the blood and oats are retained. It is, in fact, a sort of vegeto-animal aliment. In the stirring up the fibrine is separated, it is true, from union with the blood, but remains intimately connected with it. Thus we have the fibrine and albumen and all the salts remaining, while the admixture of fat supplies the combustible element in which blood is not necessarily rich. The addition of the grits supplies a certain excess of phosphoric acid to neutralise the predominance of alkali in the blood, thus rendering it not only more palatable, but more adapted to the formation of muscular fibre. There is certainly an objection in the coagulation of the albumen, which is thereby rendered more indigestible; but as an alimentary substance, the compound is complete in all the requisites. The cheapness, moreover, of this article of food, and the small space in which it could be packed, are circumstances which should tend to enhance its value among military and naval supplies; while by varnishing over the surface of the skins, or completing the boiling process in canisters instead of skins, and hermetically closing them afterwards like preserved meats, they might keep for an indefinite period.

There is an advantage which animal possesses over vegetable food, rendering it peculiarly useful to a soldier or sailor, whose occupation imperatively requires occasionally that they should be exercised as fighting men. 1. It is well known that the slightest movement of a muscle cannot occur without a necessary waste, as it were, of the muscular fibre. Animal food being especially rich in fibrine, or its transition products, such as albumen and caseine, will best and most readily supply this waste. 2. Besides, the influence of food extends to mental manifestations. "It is certain that three men," says Liebig, "one of whom has had a full meal of beef and bread, the second cheese or salt-fish, and the third potatoes, regard a difficulty which presents itself from entirely different points of view." Carnivora

are in general stronger and bolder than herbivora: in like manner animals who live on vegetable food, especially the inhabitants of warm climates, are more cowardly and indolent than those who live more exclusively on animal diet, as the American Indians, for instance, or generally the inhabitants of cold climates. Animals may be made more courageous or ferocious by animal food. "A bear kept in the anatomical department of the Giessen University, exhibited a very gentle character as long as he was fed exclusively on bread. A few days after feeding with flesh he became very prone to bite, and was even dangerous to his keeper. It is well known the *vis irascibile* of swine may be so exalted by feeding them with flesh, that they attack men." (*Liebig*.) Hounds kept for hunting wild and ferocious animals are fed exclusively on animal food, usually raw, which last condition has been stated by some to encrease ferocity to a greater degree than cooked meat. It is remarkable that in the prophecy foretelling universal happiness in this world during the millennial era, it is specially stated that "the lion will eat grass with the lamb"; and the comparative antediluvian tameness of animals of all kinds, such that Noah could collect them in an ark, may be in like manner attributed to the same circumstance, that before the deluge, all animals lived exclusively on vegetable diet. Animal food appears therefore to be a *sine quâ non* to a fighting man.

III. The *extract* of milk is a substance which has but very lately been brought into general use. Prepared, I presume, by a process analogous to that of *Liebig's* extract of meat, it seems to possess all the attributes of milk. The best preparation appears to be *Moore's* concentrated preserved milk. The strength of one part of the extract may be considered as equivalent to seven of milk, since the artificial milk is prepared by mixing one spoonful of the extract with six of water. This artificial milk, chemically analysed by *Mr. Urey*, of *Hamburgh*, has been found to possess all the properties of genuine milk. After its preparation it will in a few hours quickly throw off cream, and by agitation yield butter, by acids curds and whey, and it is applicable to all culinary purposes. For the sick, or for a sea voyage, this concentrated extract possesses the very greatest of advantages. Indeed, it has been used extensively in the voyages to the Arctic regions, and with the best advantages, about nine ounces being equivalent to two pounds of meat. Its nutritive value is 15, and its combustible equivalent 133, wheat in both cases being 100.

There are some other articles of food which have been introduced among naval stores of late, and which cannot be too strongly recommended. These are the artificial extracts of coffee and cocoa, and a third might be conveniently added, the extract of tea.

These substances, in their composition, are very analogous to extracts of meat, the active principles, theine, caffeine, and theobromine, closely resembling creatine. The salts are also very similar, cocoa containing most phosphoric acid—all containing albumen, fibrine, or caseine, besides oily (or starchy) matters. That they serve the purposes of strong soups in some countries, is evidenced by the fact that thousands who are deprived of animal food nourish upon them: and it will be at once apparent how advantageously for army and navy purposes, concentrated extracts of these substances might be employed.

Under circumstances of emergency they might, like the meat biscuit and the extracts of meat, prove invaluable; occupying, if packed up in tin cases, a very small space, and admitting of being kept for an indefinite period.

From the preceding considerations, the following practical conclusions in reference to the question before our naval and military authorities may be made.

1. That in the supplies of troops and mariners, especially in time of war, black bread should be selected, as more nutritious, more wholesome, more easily procured than white bread.

2. That as an aliment biscuit is superior to either, and as such might be more often employed.

3. That if possible, the bread and biscuit should be made with upper-malt dough and flour, as being then more nutritious.

4. That preserved meats, similar to those introduced by Mr. Goldner, should continue to be issued; care only being taken to ensure their careful preparation, if necessary, under Government control, and means adopted to prevent their being carelessly stowed away in damp places.

5. That measures should be adopted to encourage the manufacture of meat biscuit, extracts of meat, for field and hospital service, and for provisioning fortresses, especially in time of war.

6. That in the supplies served out to the navy, especially in addition those enumerated above, it would be well to conjoin prepared extracts of blood, milk, coffee, tea, cocoa, etc., and preserved vegetables for more general use.

19, Dorset Square, May 1852.

AN INQUIRY INTO THE *MODUS OPERANDI* OF THERAPEUTIC AGENTS UPON THE HUMAN FRAME.

By R. HUTCHINSON POWELL, M.D.Lond., etc.

“Les observations au lit du malade sont le fondement de la science, mais elles ne suffisent pas et donnent lieu aux plus grossières erreurs. De même que la physiologie éclaire l'histoire des maladies, de même les recherches chimiques, les expériences faites sur les animaux, en fournissant les moyens d'étudier les modifications que le médicament produit ou subit et les changements qui en résultent dans l'activité des divers organes, font connaître les vertus essentielles du médicament. C'est la route que la science doit parcourir.”

THIS extract, taken from a French Review, aptly represents the tendency of modern investigation; with what propriety, or leading to what result, the future must decide. The safe course, however, would appear to be a resolution to carry out that eclectic system in medicine, successfully pursued in other partly intangible sciences. The search after the *origin* and *cause* of natural phenomena has been wisely abandoned; one being satisfied, after close observation of these operations, to determine the laws by which they are governed, and the necessary conditions without which they cannot be developed.

The following remarks do not lay claim to the precision or completeness of a scientific arrangement; such not being attainable in the present state of the *ars medendi*. They are suggestive, merely, and may further serve to give a connected, though very circumscribed, view of the subject. This, as a science, is only in its infancy, and demands a thorough revision, together with the appliances of modern physiology, in order to lay its foundations on a secure and lasting, because trustworthy, basis. It needs but a cursory survey of the recorded experience of writers on *materia medica*, to evince to the philosophic observer what a luxuriant field the imagination of crude theorists has wandered over—wherein hypothesis has been permitted to encroach excessively upon the province of fact. Indeed, the subject is beset with difficulties, which will require the associated efforts of true *savans*, for a lengthened period, in order to the attainment of the requisite knowledge in this department of medicine, and to the overcoming of the obstacles presented through our unsettled notions on the physiological and abnormal action of the human organism. To arrive at any degree of precision in the scientific administration of drugs, there is presupposed an exact knowledge of the relative and absolute composition of the body, of its fluids and solids, and of their properties, in health and disease: as well as an experimental proof of the changes induced in those from the exhibition of remedial or tentative agents, which in turn may undergo more or less decomposition, the result having an important bearing upon therapeutics. The fact that drugs exert a different action upon the system, according as they may be taken during health or disease, must not be lost sight of in endeavouring to make out their peculiar mode of action. Our stock of information on all these points being but scanty and superficial, we need not expect the healing art to rest on a truly scientific basis until they are solved. There has been of late years an advance made in true knowledge, and the inductive method has been adhered to in many praiseworthy attempts to arrive at general conclusions. Thus, Mitscherlich, of Berlin, has determined, from his researches, a few laws, which are, he states, all but invariable. He has found from extended experiments, that medicines of similar chemical composition always produce the same effects; the reverse obtaining from dissimilar medicinal compounds. Substances of *analogous* composition, possess analogous, but not identical, properties in relation with the organism. The combination of substances possessing different properties, preserves the qualities of one or other. We shall again revert to the points here referred to merely in illustration. In some instances, as, *e.g.* in the *antacid* class, it is permitted us to note the precise *modus operandi* of remedial agents; the resulting compound subsequently producing antiplastic effects in traversing the circulation prior to elimination (altered or unchanged) from the system, and thus evidencing the *multiple operation* of any given agent. But, in most cases, it appears that we should at present not expect to acquire more than a remote link in the chain of action of many potent remedies; deducing the peculiar operation, either from the mode of reaction, or modification of the economy in certain morbid conditions, or from some relation with its excretions and secretions, and so forth. Thus our information is partly *direct* and *positive*, but chiefly *indirect* and *inferential*. How does *quinia* act?

ex. gr., its controlling influence over periodic disease, points to the nervous system as its seat; and its *high* atomic constitution, being so far related to *urea*, which usually modifies injuriously the intra-organic nervous textures, significantly denotes *some* connected operation. M. Baud found a double salt of *ferrocyanate* of *potass* and *urea* to act as a substitute for *quinia* in ague; thus indicating that an agent, though for the most part noxious to the organism, may, under certain circumstances, replace another, successfully used as an antimorbific medication. Again, the analogy obtaining between *casein* and one of its products, *valerianic acid*, affords another instance of the (in this case) close relation existing between respectively interchanging bodies of animal and vegetable origin. In all these instances, however, the attempt to give a *rationale* is baffled, when we try to come to "close quarters" with these recondite operations and analogies. The entire subject of inquiry is so vast in extent,—involving, moreover, every hidden operation in physiology, pathology, and other collateral sciences,—that the mind recoils from the endeavour to clear up the almost chaotic mass of (often) conflicting, complicated, and obscure explanations, heretofore given of the *modus operandi* of remedial agents. Hence, the writer simply proposes to state the conclusion arrived at by recent investigators; being also guided by his own experimental observations, in indicating the direction in which those should advance who may be desirous of extending the boundaries of our at present very limited stock of information herein.

Many remedies may be considered to undergo some change in the stomach, or other portion of the digestive tube. The absorption of the active principles would seem to depend chiefly upon their solubility in, or their being presented in fine division to, the digestive fluids; the insoluble residue being ejected with the *fæces*. Some are decomposed either prior or subsequent to their gaining access (in an altered state) to the blood-vessels. The resulting compound is probably owing to a recombination of some of its constituents with certain organic materials in the blood, to which the therapeutic action is due. Medicines obtained from the mineral kingdom, and some of vegetable extraction, as the alkaloids, do not for the most part suffer decomposition in their transit through the system. The less potent constituents, as the gummy, extractive, and other principles of drugs of vegetable origin, are doubtless separated and distributed through the animal economy, according as they may serve its various purposes; or they are removed with the alvine excreta.¹

The following are the conclusions of Professor Mitscherlich under this head, which will serve to introduce more clearly the subject under notice. "The decomposition of a medicine, when coming first in contact with the stomach, follows the laws of physics and chemistry. The same reactions result equally during life or after death. Some agents undergo no alteration by contact with that organ, being ejected unchanged. Others are not at all altered; some are partially, some

¹ The local effects of these latter agents must not be overlooked in endeavouring to account for their operation on the system at large. Thus, the therapeutic class termed *emollients*, containing oily and mucilaginous drugs, etc., expand the tissues, alleviate pain, and protect sensitive surfaces from acrimonious matters.

completely decomposed, before being absorbed ; the latter forming new combinations with the organic materials, prior to absorption, as likewise do those which are partially changed. Whatever may be the preceding chemical phenomena, absorption takes place through the epithelium, epidermis, or lymphatics, if these agents are analogous to the organic constituents ; if otherwise, absorption ensues through the veins. It is not improbable that the *vasa brevia* effect the purpose of retarding the absorption of, and modifying very active ingesta, by the assimilating process they undergo when commingled with the splenic blood, which takes a more circuitous course than that conveyed by the mesenteric veins. It is extremely difficult to detect these substances in the chyle or blood ; but they may be found in the solids, or fluid excreta or secreta." The professor contends that, in all these cases, the phenomena are referrible to the laws of chemical action. But limited indeed must be our perceptive powers, or blind to fact, if we do not speedily recognise a new element for observation, when we come to study the *organism in relation* with these *extraneous agents*. Phenomena for which we are unable to assign an explanation, termed *vital* or *dynamic*, come into play, and render our task so difficult of elucidation.¹

We shall now proceed to notice very briefly the several modes of action of therapeutic agents. Here it may be observed, that numerous medicines exert a mixed operation, as before alluded to ; and it becomes next to impossible to define the *precise amount* due to each *mode of action*, whether purely physical, chemical, or dynamical ; the result depending upon the morbid conditions to be dealt with, and other complex elements presented in this problem. The merely *mechanical* and local action of many useful therapeutic agents is obvious ; as animal charcoal given in dysentery, etc. Again, it appears from M. Monneret's experiments, that trisnitrate of bismuth mainly acts by sheathing a morbidly sensitive mucous membrane abraded of epithelium ; the large doses that may be given, proving the result to have but little reference to any ulterior chemical effect, prior or subsequent to its partial absorption. This view is corroborated by its *isomorphous* affinities, which will be now referred to.

In the absence of separate experiments, we may hope to attain a positive knowledge of the *modus operandi* of remedies by their *iso-*

¹ Some medicinal agents hold an intermediate place between those properly so termed, and the materials of food. Phosphate of lime, or other calcareous salts, meeting with phosphoric acid—the product of albuminous oxidation—would seem to act, according to MM. Beneke and Heller's experiments, by forming, in conjunction with albumen and fatty matter, the pabulum for healthy cellular nutrition and growth, or by supplying some definite element required in the process of expelling a morbid principle from the blood. The saline constituents of mineral springs, as the alkaline carbonates and the chlorides, appear to operate in the former way, by contributing some necessary material in the construction of the proximate constituents of the body, the absence or diminution of which may constitute the point of departure from health. Cod-liver oil, and other fish oils, appear to act in virtue of the oleaginous principle, and not from their containing minute portions of iodine. Simon found the blood to become rich in solids under the use of cod-liver oil, especially the red corpuscles and albumen ; the fatty matter smelling of the oil. Its essential operation, as of others similarly constituted, is that of a conservative agent, by becoming readily oxidised, and thus protective of the tissues.

morphous relation with some one of a group, whose precise action has been experimentally determined. Thus, in conformity with the effect of magnesia, though differing in degree of activity, may be considered lime, manganese, and bismuth, as just stated; the latter especially approximating, as shown by Mialhe, to magnesia. Again, iodine typifies the action of chlorine, and of bromine; antimony, that of phosphorus, and of arsenic. Their action has been shown by Mr. Blake, with much ingenuity and probability, to depend upon each indifferently combining with, or replacing, some normal element of the blood, to form a similar organic compound. We are here forcibly reminded of the theory long ago promulgated, as to the mechanical action of medicines, which, it would appear, amidst a heap of error, concealed some fragments of truth. In connexion with this indirect (analogical) mode of attaining an insight into the peculiar action of medicinal agents, it may be observed, that if the operation of some vegetable production be determined with any precision, we may often get a clue to the mode of action of remedies taken from members of the same, or a related natural family of plants, whose action may be rationally concluded of a like nature.

Another occasional property of bodies—their *isomeric* condition—serves as a transition to the next head, and throws some light on their peculiar action as remedial agents. Thus Lehmann has shown that salicine, the bitter principle of willow bark, is converted in the system into a body made up of the same elements, in like proportions, as are contained in benzoic acid, and which is *equally* productive of hippuric acid in the urine.

Animal chemistry, with the aid of histology, affords, without doubt, the most likely channel through which a just conception of the *modus operandi* of many potent remedies may be attained. Purely chemical action, especially when excessive,—as when powerful agents are exhibited in poisonous doses,—must not be confounded with the proper therapeutic operation of drugs. Moreover, the application of this science to elucidate therapeutic action, requires a more profound insight into the nature of morbid processes, than is implied in the mere neutralising of the secondary changes induced in the animal fluids or solids. We have in iron, exhibited in anæmic states, a familiar and forcible illustration of the manner of action of agents exerting their effects through chemical affinity. Numerous and able experiments have determined that this agent, either simple or oxidised, has for its office the introduction and distribution of oxygen through the organism; being, as it were, the servitor of this potent element.

Therapeutic agents, it will appear, are used with greatest success, when removing a cause of disordered action in the vital organs, by forming some organic compound, which is ejected by the secreting or excreting apparatus. They in this manner aid the natural operations of the organism, in its efforts to remove a *materies morbi*; without them, the inherent power of the system might prove inadequate. Again, by arresting blood-changes, they may strike at the root of disease, and facilitate the operation of the conservative functions of the system previously antagonised. Among the former agents, may be arranged those containing oxygen largely, and in loose combinations; as nitric acid, nitro-hydrochloric acid,—which, be it observed, con-

sists of nitrous acid, and chlorine dissolved in water,—chlorate of potash, citric acid, and others. These drugs seem to act through the respiratory function, by supplying oxidising materials to the blood; thus facilitating regressive metamorphosis of tissue, or forming with materials in the blood morbid compounds of innocuous and removable character. The writer has repeatedly satisfied himself of these effects, occurring under conditions which mostly excluded any other extraneous influence, but which the very contracted limits of this paper preclude him from giving in detail. Some cases of jaundice may be just instanced, in which all other remedial agents proved useless, and wherein the nitro-muriatic acid exerted a marked control; the yellow colour and accompanying morbid state, it may reasonably be presumed, undergoing regression and removal, during its exhibition; or returning when omitted, and again disappearing on its resumption. Those drugs or remedies which seem to operate by setting up a cumulative change in the circulating fluids, analogous to the effects of zymotic agents, are numerous and important. This *catalytic* order of agents, it is highly probable, will be considerably extended, as we get more precise information as to the changes induced in the blood from special drugs, having a notable control over certain morbid processes, and will include many agents differently arranged at present. Belladonna acts very likely in virtue of this (catalytic) quality in preventing scarlatina, as well as in another manner, hereafter to be mentioned. Yeast being a substance itself undergoing change, probably induces a similar alteration in the contents of the intestinal tube of a curative character, in the course of excretion from the system. Salts of mercury and of other metals, would seem to bring about their peculiar effects by hastening cacoemic change; the morbid products being subsequently excreted through the glandular apparatus; each and every gland throughout the system being (in accordance with special affinities) more or less acted upon, thus showing these agents to possess *general* catalytic properties.¹

Dr. Prout's opinion regarding the mode of operation of agents termed by him *meroxydes*, is worthy of notice here. He considers these bodies to act in virtue of their imparting a resisting power to organic constituents, whereby purely chemical attributes are prevented from coming into operation. Many saline springs probably act in this manner.

Before advertng in brief detail to remedies comprised under their therapeutic heads, and in concluding this general outline of the subject under notice, it may be mentioned that many remedies seem to owe their efficacy to the potency of some of their decomposed elements being set free in the *nascent* state in the circulation, or to their capability of entering into union with *nascent* organic elements undergoing

¹ Did space permit, it would be interesting to inquire into the physiological action of the glandular organs, as having a very close and essential relation with the development of the effects of drugs. No theory seems to harmonise so well with the mutual reactions going on between these factors and agents when brought in contact, as that of viewing the former as a congeries of microscopic conduits or cellular bodies, of more or less minuteness in each instance, whose office is to bring within the range of chemical combination those blood constituents having an affinity for each other, often in a nascent state, but which are previously placed without that degree of contiguity in the circulation required for the formation and removal of a new compound.

retrogressive change; being thus promotive, in their removal from the organism, of the healthy condition of its solids and fluids. We have an illustration of the latter mode of action in the exhibition of benzoic acid, which appears in the urine as hippuric acid; extractive matter being largely excreted under its use: remedies of this class seeming to fill up, as complementary bodies, the constituents required by the economy in the ejection of its effete products. The resulting highly acid urine becomes capable of holding in solution an abnormal amount of phosphatic salts, excreted as the effect of a morbid process progressing in the system, and being thus eliminated; the benzoic acid further serving to restore the urinary mucous membrane to a healthy state, acting indirectly, by preventing the production of an ammoniacal salt, which affects injuriously the solvent power of the urine.

(To be continued.)

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AN INQUIRY INTO THE REASONS WHY THE HORSE RARELY VOMITS.

By JOSEPH SAMPSON GAMGEE, Esq., Student in Medicine in University College, London.

THIS subject has, within the last two centuries, engaged the attention of numerous physiologists, the object of whose inquiries, however, has differed somewhat from ours; for the majority of them have been imbued with the prevalent opinion that the horse NEVER vomits. Thus Lamorier¹ addressed to the French Academy of Sciences *Une mémoire où l'on donne les raisons pourquoi les chevaux ne vomissent point*; and M. Flourens² recently published a paper on non-vomiting in the horse, heading it with the following dogma, "*Le cheval ne vomit point; c'est là ce que chacun sait.*"

Were it not that M. Flourens is one of the most recent, as well as most renowned, writers on this subject, we should not deem it necessary to contradict this statement, because it has long been known that horses occasionally, though rarely, do vomit. True it is that, since as a general proposition we cannot assert that the horse does vomit, it might be supposed that the converse statement would hold good; and so it does; but only in a sense that is too vague to warrant its being adopted as the title of a vexed scientific question.

In the pursuit of our inquiry, under present circumstances, it being indispensable that we should clear the path from error before we can hope successfully to attain the truth, we shall, firstly, quote cases of horses having vomited; secondly, analyse the opinions which, at various periods, have been propounded on this subject; and, thirdly, adduce reasons to prove why vomiting in the horse is of rare occurrence.

I. CASES OF VOMITING IN THE HORSE. In relating the history of a horse affected with spasmodic colic, M. Charlot¹ makes the following

¹ Histoire de l'Académie Royale des Sciences. Année 1733.

² Gazette Médicale de Paris. Année 1849, No. 5, 3 Février, p. 79-81.

statement: "Speedily, and before me, the animal gathered together its limbs, made an effort, by contracting the abdominal muscles, opened its mouth, and ejected, by the nostrils, a thick, bloody, fœtid liquid, of acid taste, and mingled with fragments of forage. The act of vomiting was repeated in less than half an hour. It gave rise to the evacuation of about two pints of liquid, which had been previously swallowed, and in which two strongyli were contained." M. Tombs² states that a bay mare, while on a journey, vomited a gallon and a half of indigested food. Though we do not agree with the explanation which he gives of the phenomenon, his statement of fact respecting it is so plain as to be irrefutable.

These two cases appear to be conclusive evidence to prove that M. Flourens, and many of his predecessors, have sought explanations for a supposed, and not real, fact; and, therefore, have at least incurred the danger which attends those who study nature with imaginations erroneously preoccupied.³

II. HISTORY OF THE SUBJECT. Were we to arrange the historical part of the subject chronologically, it might prove tedious; to avoid which, we shall class opinions according to the analogies they present.

1. While acknowledging that the stomach of the horse is situated at a distance from the muscular walls of the abdomen, M. Dupuy⁴ attributed, in a great measure, the difficulty of vomiting in that animal to powerful compression of the œsophagus by the muscular fasciculi of the right crus of the diaphragm, in the substance of which it passes. A similar reason was, indeed, hinted at long since by Peyer;⁵ but its fallacy is too apparent to need much comment, since, in the same manner as food passes freely down the œsophagus to the cardiac orifice, it may, without obstacle, retrace the same course.

2. A second class of writers have imagined the existence of a valvular apparatus at the cardiac orifice, destined to prevent the return of food into the œsophagus. Among them was Lamorier,⁶ who attributed the greater part of the horse's difficulty in vomiting to the impossibility of compression of the stomach by the abdominal walls and diaphragm, alleged that a crescentic valve was so arranged as partially to close the cardiac orifice, and prevent the return of coarse food through it. Dr. Gurlt⁷ has figured a spiral valve at the cardia; and Mr. Spooner,⁸

¹ *Recueil de Médecine Vétérinaire*, tome iv, p. 128.

² *Veterinarian*, vol. xii, p. 797.

³ In a report read by M. Mignon to the Société Centrale de Médecine Vétérinaire, (*Bulletin de la Société*, année 1847, tome deuxième, p. 191, et seq.), on a memoir by M. Valtat, on Vomiting in the Horse, many cases of its occurrence in that animal are related. We refer to this report as embodying much interesting information. For other cases of the same kind, see a paper by Professor Gellé, translated in the *Veterinarian*, vol. xii, p. 486, from *La Zoologiste du Midi*. See also Professor Rey, *Veterinarian*, vol. ii, p. 413. It is almost superfluous to observe, that we only cite cases which bear evidence of correctness. We take no notice of many of the cases in which horses are said to have vomited, because these cases are indefinitely related.

⁴ *Journal de Physiologie, Experiment. et Path.*, par F. Magendie, tom. i., p. 338.

⁵ *Merycologia sive de Ruminantibus et Ruminazione*, p. 178.

⁶ *Loc. cit.*

⁷ *Die Anatomie des Pferdes in 70 lithographirten Tafeln*, von D. E. F. Gurlt, tabula 14, fig. 3, text p. 66.

⁸ *Compendium of the Vet. Art.* By James White, edited by Mr. W. C. Spooner, 1842, p. 66.

after observing that the cardiac orifice "has a sort of valve formed by the duplication of its membrane," adds, that "the œsophagus, just previous to its entering the stomach, makes an acute angle, by which means, in great measure, vomiting in the horse is almost entirely forbidden." It has not, however, been satisfactorily shewn that either of the forms of valve above alluded to, exists in the horse's stomach.

3. M. Colin,¹ after repeating Lamorier's observation, that the relative position of the stomach and large intestines protects the former from the direct pressure of the abdominal walls, correctly remarks that, at its terminal orifice, the walls of the œsophagus are very thick, and that the cavity in its interior is closed, the mucous membrane being folded like a radiated flower. To this arrangement, M. Colin attributes the impossibility, or extreme difficulty, of vomiting in horses; and he endeavours to justify his belief by applying to the stomach the theory of the hydraulic press. But such a line of argument is not justly applicable in the case of the stomach and œsophagus, which, as living and active organs, are not regulated solely by hydraulic laws.

4. A fourth class of observers have attributed the difficulty of vomiting in the horse, to the oblique insertion of the œsophagus into the stomach, and to a sphincter, which they allege to be formed at the cardia by the union of the muscular bands belonging to the stomach and œsophagus. This doctrine appears to have been first promulgated by Bertin,² who stated in proof of the existence of the cardiac sphincter, that the weight of a man did not suffice to expel water or air from the cardiac orifice of various stomachs, the duodenum being tied.³ Lafosse⁴ only took into account the sphincter at the cardia, whereas, of late, Berard⁵ and Rymer Jones⁶ have reiterated the conclusion of Bertin; and the former writer, moreover, remarks⁷ that the rhythmic movement which M. Magendie discovered in the lower third of the œsophagus, does not occur in the horse, whose œsophagus, he adds, is composed, in its last eight or ten inches, of a very elastic but inirritable tissue. Since, however, the microscope, no less than the naked eye, abundantly attests the true muscular nature of that tissue, M. Berard's denial of its irritability does not seem to be sufficiently warranted.

Bertin's theory has lately found a zealous advocate in M. Flourens,⁸ whose opinion on this question merits more careful study than do those of his predecessors, because he has based it on experiments which he affirms to be *univocal and demonstrative of the obstacle to vomiting in the horse*.

Having been interested by a perusal of M. Flourens' publication at an early period of my studentship, I at once repeated some of his

¹ Recueil de Médecine Vétérinaire pratique, III série, tome vi, p. 478.

² Histoire de l'Académie Royale des Sciences. Année 1746, p. 33-4.

³ Had Bertin reflected that sphincters perform their function by virtue of the vital power of contraction with which their constituent muscular fibres are endowed, and that therefore they are inactive after death, he would have sought other explanations for the fact he observed.

⁴ Dictionnaire Raisonné d'Hippiatrique, par M. Lafosse, vol. ii, p. 139.

⁵ Cours de Physiologie fait par P. Berard, vol. ii, p. 139.

⁶ Cyclopædia of Anatomy and Physiology: article *Solipeda*, p. 735.

⁷ Op. cit., vol. ii, p. 28.

⁸ Loc. cit.

experiments, and was surprised at the very different results which I obtained from them. A just appreciation of my position in relation to M. Flourens made me diffident, and caused me to repeat my observations and the study of his paper, at different times over a period of nearly three years. The result of this plan has been more clearly to establish the fallacy of M. Flourens' conclusions, and the mode by which he arrived at them. In justice to the originator, I prefix a translation of the account he gives of them to the results I have obtained, in order to afford full opportunity to every one to arrive at his own conclusions.

EXPERIMENT I. "The stomach being filled with water and the pylorus tied, the stomach was placed on a table, and on the stomach a board; two men then mounted on the board; they pressed it by jerks, and not a single drop of water escaped through the œsophagus.¹

"It was evident from this first experiment, that all the obstacle to the escape of water by the œsophagus was in the superior orifice of the stomach. This was rendered more evident by a second experiment.

EXPERIMENT II. "The stomach being filled with water and the pylorus tied, I introduced a metallic tube, about an inch long, through the œsophagus into the superior orifice. No sooner was the tube placed in the opening than water flowed through the œsophagus.

"The obstacle of the cardiac orifice having been surmounted, none other presented itself in the œsophagus.

"Hence the œsophagus, notwithstanding its strong circular muscle, takes no part in the phenomenon, as is even more clearly demonstrated by the following experiment.

EXPERIMENT III. "The stomach being filled with water and the pylorus tied, I cut, piece by piece, from the pharynx to the stomach, all, absolutely all, the œsophagus; the stomach was pressed, and not a drop of water escaped from it.

"The œsophagus having been removed, I was able to introduce my finger into the cardiac orifice, and I recognised two things; firstly, that the more the stomach was compressed, the more closely was my finger grasped; and secondly, that the oblique direction of the superior orifice greatly aided the phenomenon, for as soon as I rendered this orifice straight, water flowed.²

"Bourgelat believed that the principal cause of the *not vomiting* might be in the accumulated folds of the mucous membrane of the cardiac orifice. The following experiment proves that Bourgelat erred.

EXPERIMENT IV. "I made a large incision on the side of the stomach; I subsequently removed all the mucous membrane of the

¹ M. Flourens states that he repeated this experiment more than twenty times, and the result was always the same, except with one stomach, which he states was diseased, and describes as "*percé de trous profonds tous remplis de vers.*" There can be no doubt it was a stomach containing bots, a condition perfectly consistent with health, inasmuch as in a considerable portion of healthy horses, bots inhabit the stomach.

² It is remarkable that this observation did not shake M. F.'s faith in all his results; had he connected that observation with the known fact that, as *muscles*, the stomach and œsophagus could alter their relative position, he must have seen that their vital endowments were an insurmountable barrier to the success of his purely mechanical experiments and arguments.

cardiac orifice, and even that of the œsophagus. I sewed up the opening made with the knife; I filled the stomach with water; I tied the pylorus; I recommenced compression of the stomach, and not a drop of water escaped. |

“The third experiment limits the extent of the obstacle to vomit on the part of the œsophagus; here is one which limits it on the part of the stomach.

EXPERIMENT V. “I made a large incision on the side of the stomach, and I cut the two *lateral fasciculi* of the internal muscles, without however touching the internal fibres, which really are the sphincter.

“The stomach was then sewn up and filled with water, the pylorus was tied, and pressure recommenced. Not a drop of water escaped by the œsophagus.

“All these experiments are univocal; they all demonstrate: firstly, that the obstacle to the horse’s vomiting is in the superior orifice of the stomach; secondly, that it is in that orifice alone; and thirdly, that it is there due, firstly, to that orifice having a sphincter, and secondly, to the direction of that orifice being *oblique*.

“Bertin had therefore suspected rightly, that the sphincter of the superior orifice of the stomach, and the oblique direction of that orifice, are the two causes why the horse does not vomit.”

Such is M. Flourens’ statement. My own experiments on twenty-two horses’ stomachs¹ have given the following results.

A. Twelve stomachs (with from four to six inches of œsophagus attached to each) having been filled with water through the pylorus, and this aperture closed by ligatures, allowed that liquid to escape through the cardia when little or no pressure was exerted on them. In several, the water at once gravitated through the cardia; in others, a very slight manual pressure sufficed to force it through that passage. In all cases I have provided for the freedom of the cardiac orifice while pressure was applied to the surfaces of the stomach; this I have done by placing the viscus near the edge of the table, and allowing its cardiac end to project a little. M. Flourens states that he caused the stomach to be placed *on a table*, without giving any reason to suppose that he took the necessary precaution with reference to the cardia. By citing one of the above twelve experiments, it will be seen how likely the experimenter in such a case is to succeed in discovering the object of his wish, if he be not cautious in avoiding fallacies.

A horse’s stomach, with about five inches of œsophagus, filled with water through the pylorus, and this secured, when placed near the edge of the table with the cardia free, allowed water to flow through it by mere gravitation; slight compression exerted on the organ sufficed to expel the water to a considerable distance. When I placed my open hand on the surface of the stomach and pressed forwards, the flow gradually diminished and eventually ceased, even though considerable pressure was applied. By directing the pressure forwards I directed the cardia downwards, and mechanically closed it: how likely, nay almost inevitable, must be a similar result for a similar

¹ M. Flourens states that he repeated his first experiment more than twenty times.

reason, when two men stand on a board placed over the stomach and press with jerks.

B. A stomach, which did not allow water to flow through the cardia when a weight of fifty-two pounds was placed on it, and another, which required the pressure of twenty pounds before the water escaped, allowed the fluid to flow when I applied very slight pressure to the cul-de-sac with my hands.

The result of this observation suggests another source of fallacy in M. Flourens' experiments. The force generated by the contraction of the stomach's muscular coat is distributed all over its superficies, whereas M. Flourens only applied vertical pressure to one aspect. It is easy to understand how the result obtained by his doing so, might have been readily altered by simultaneously compressing the extremities of the organ.

c. After filling a stomach with water through the pylorus, this orifice was closed by ligature, and the viscus placed on a table. By grasping the stomach with my two hands, and exerting very considerable pressure in different directions, no water escaped. I then placed the stomach near the edge of the table, and on it a board with fifty-four pounds of iron; a little less weight than this sufficed to make the water dribble through the cardia; with this weight it flowed in a small but continuous stream. When I inclined the board backwards, so as to exert the greatest pressure on the great curvature of the stomach, the flow of water was freer than when I held the board horizontally; as I inclined it forwards the stream gradually diminished, and eventually stopped. Through an opening made at the great curvature I removed the mucous lining of the œsophagus, and that in the immediate neighbourhood of the cardia. On pouring water through the artificial opening, it escaped through the cardiac orifice in a large stream by mere gravity.

D. Four stomachs, in the same circumstances as the above, did not give exit to the contained fluid, though grasped and firmly pressed by the hands of two persons; but the water escaped freely from all, when the lining of the œsophagus and around the cardia was removed through an incised aperture made at the great curvature.

E. A stomach, treated and placed as usual, did not allow water to escape through the cardia, when a boy mounted on a board was placed over it; but the water flowed when a man, weighing one hundred and forty-four pounds, took the boy's place.

F. One stomach, in the same condition as the preceding, did not allow the escape of any water through the cardia when a man, weighing one hundred and fifty-seven pounds, mounted on a board which had been placed horizontally over it. When a boy, weighing sixty and a half pounds was added, water flowed in a continuous stream, and the viscus burst.

G. One stomach bore the weight of two men, without any water flowing through the cardiac orifice; on making an opening into the stomach, I found the mucous membrane at the cardia very much folded.

The experiments A, B, C, D, warrant us in denying the existence of a sphincter at the horse's cardia.¹ It would have been more satis-

¹ I performed careful experiments on three asses' stomachs, the results of which precisely agreed with these.

factory had the experiments E, F, G, been completed. Nevertheless the fact that the results most closely agreed with M. Flourens when, through inexperience, I conducted them with the least caution, may not be without weight in the establishment of the truth. When once it has been proved that, owing to its laxity, the thick mucous membrane forms folds at the dead horse's cardia, which more or less completely occlude it, it is easy to understand how—according to whether the stomach be contracted or dilated at the time of death—the degree of obstruction should vary. No application can fairly be made of the possibility of this obstruction in the dead horse's stomach to the physiology of that viscus during life; because the very fact of the mucus lining of a strong muscular tube being much folded, proves that its bore is susceptible of being much dilated, provided the stimulus to dilatation be communicated to the muscular structure.

Though we believe that the citation of further evidence on this point is not essential to the cause of truth, it may not be quite useless to oppose to M. Flourens the opinion published in 1847 by one of his distinguished countrymen. In M. Mignon's report, already quoted, we find the following passage. "The reporter of your commission, when in charge of the anatomical works at the Alfort school, has many times proved, while passing a current of water through the first portions of the alimentary canal, that it was extremely easy to make the water introduced into the stomach through the duodenum escape through the œsophagus; it was sufficient for this purpose to fix a stop-cock firmly and hermetically in the duodenum. The water on entering the stomach, first filled it, and visibly distended it; then dilated the cardia into a kind of funnel; finally forced its way through that orifice, and flowed outwards."¹

A somewhat less erroneous, because less exclusive, theory than any of the preceding has been advocated by Girard.² After having described the arrangement of the muscular fibres at the horse's cardia, he states, that he regards that as the principal cause of the inaptitude of monodactyles to vomit; as accessories to it, the peculiar mode of insertion of the œsophagus, the shape and position of the stomach.³ We have already confuted the evidence which has been adduced by Bertin and others, to prove that the obstacle to vomiting resides in the muscular fibres of the cardia. As to the influence of the peculiar mode of insertion of the œsophagus, and the shape of the stomach, we need only remark, that since both these conditions are susceptible of alteration by the muscular activity of those organs, no arguments, based upon the assumption of their being invariable, can be accepted as conclusive. To the position of the stomach, (near the spine, and

¹ Loc. cit.

² *Traité d'Anatomie Vétérinaire*, par J. Girard. Quatrième édition, 1841. Tome deuxième, p. 569.

³ HALLER, (*Elem. Physiol.*, edit. Lausanne, tom. vi, p. 291), states, that the narrowness and oblique insertion of the œsophagus, and the debility of the horse's abdominal muscles and diaphragm, are the causes of its inability to vomit. Haller's error is greater than it appears; for his words, "*et ob musculorum abdominis atque diaphragmatis debilitatem*", refer to the *physical weakness* of those structures, as proved by his adducing in proof of his statement the authority of Lamorier, (*loc. cit.*), who, having observed that rupture of the diaphragm is frequent in the horse, refers it to the *weakness* of that muscle,—an explanation which is certainly not borne out by observation.

separated from the floor of the abdomen by the enormous large intestines), even I, at one time, attributed a great part of the horse's difficulty to vomit. It occurred to me, however, that the act of parturition in the mare is one of great rapidity; that abdominal respiration during disease or severe exercise is, in the horse, very easily effected; in the performance of these functions, and in the voidance of urine and fæces, the abdominal muscles take a very active part; and yet the uterus, bladder, and rectum are as disadvantageously placed, with reference to the floor of the abdomen, as is the stomach; the fact is, that the abdomen being completely full, pressure is transmitted very effectively from its muscular walls to the contained organs.¹

Different as are the opinions we have hitherto commented upon, they yet present one remarkable point of analogy, inasmuch as all their authors attributed the horse's difficulty to vomit to a *mechanical obstacle*. It affords me pleasure gratefully to acknowledge, that for not falling into the same error I am indebted to Dr. Sharpey, who gave me an all-important hint by suggesting an inquiry into the action of emetics on the horse. It at once occurred to me, that as the mechanical part of the act of vomiting is excited by a reflex stimulus from the nervous centre, it behoved those who undertook to demonstrate why the horse rarely vomits, to study two classes of phenomena—the *nervous* and the *mechanical*:—for it is quite obvious that if the stimulus to the expulsive effort be wanting, it is useless to attribute the impossibility of the evacuation of the stomach by the œsophagus to mechanical obstacles, for they have no opportunity of coming into operation. Moreover, since I have excluded the existence of any mechanical impediments to vomiting in the horse, it is evident that the question which forms the subject of my inquiry, can alone be solved by determining what is the action of emetics on the nervous system of the horse.

It is since I received and worked upon Dr. Sharpey's hint, that I have carefully studied M. Mignon's report, and have found that it occurred to him and his collaborators, that the efforts of those who had studied the subject as pure mechanists could but prove abortive. "Is not the stomach of the horse that vomits," asks the reporter, "in conditions which no experiment would reproduce? And do you give no consideration to the nervous element, which you forget to regard as one of the data of the problem?" As a sketch of their theory of vomiting in the horse, MM. Mignon, etc., state "that the physical and vital conditions of vomiting, in their orders of succession and importance, are the following:—

"1. Extreme distension of the stomach.

"2. Disappearance of the folds in the œsophagean mucous membrane, accompanied by dilatation of the cardia into a kind of funnel.

"3. Paralysis of the muscular coat.

"4. Energetic concurrence of the nervous force, and of the action of the expiratory muscles of the abdominal walls."

As to the first of these propositions, on which the reporters lay the

¹ The above paragraph had been written several weeks before I read the following passage. "Il nous suffira de dire que dans l'abdomen ou aucun vide n'existe, l'action des muscles du bas ventre doit se transmettre sans beaucoup de perte à tous les organes contenus dans la grande cavité splanchnique." (Mignon, loc. cit., p. 251.)

greatest stress,¹ it may suffice to say that it is an unfounded assumption.² We grant that frequently undue repletion of the stomach is the stimulus which, through the medium of the nervous centre, brings about the reflex movements, that end in evacuation of its contents by the œsophagus; but such repletion of the viscus is not essential to the perfect manifestation of the reflex acts in question. This is abundantly testified by the sufferers on a sea voyage, in whom the act of vomiting, frequently commencing when the stomach is empty, and continuing at other times after its evacuation, must primarily be due to a nervous cause alone.

The purport of the second proposition is best given in the terms of the report: "The disappearance of the folds in the mucous membrane at the cardia, and the dilatation of this part into a kind of funnel, are a necessary consequence of the eccentric and excessive distension of the stomach. The power that separates the sides of the viscus from each other is as great at the cardia as elsewhere; and if in the first moments of repletion of the gastric pouch the œsophagean sphincter resists, it no longer does so when the repletion is excessive. The walls of the stomach, by the mere fact of their distension, carry with them the two bands of the sphincter, the rectilinear direction of which they interrupt; and then these fleshy bands, far from enclosing the cardia, as between the branches of a compass, merely surround it as a section of a funnel. Thus it is that the œsophagean orifice is transformed into a wide, open, and round orifice.

The extreme dilatation of the stomach, by destroying at the cardia, and that in a purely physical manner, the obstacle which is opposed to the escape of matters through the œsophagus, must therefore be regarded as the principal condition of vomiting. This is accordingly confirmed by experiment. The experiment alluded to, is the one quoted at p. 555, from which M. Mignon discovered that if water were poured through the duodenum into the stomach, this first became distended, then the cardia opened and allowed the fluid to escape.

We confess that we were not a little surprised, when we first reflected that those who thus mechanically and positively argued from experiments on dead horses' stomachs, for the predetermination of vital phenomena, have in the same paper loudly inveighed against the

¹ "Nous ne prétendons pas avoir tout expliqué, tant s'en faut; nous n'avons voulu établir qu'une seule chose, à savoir: que la dilatation excessive de l'estomac est la condition par excellence du vomissement dans le cheval, en raison du changement tout physique qu'elle produit dans la forme du cardia et de la conséquence physiologique, c'est-à-dire de la paralysie qu'elle amène dans la tunique contractile de l'estomac."

² That the extreme distension alluded to in the report, is not of that sudden kind which Magendie, (*loc. cit.*, p. 13), noticed in the stomach of dogs about to vomit, as being produced by the deglutition of air, but its gradual distension by food, may be inferred from the terms of the report. "On se demande comment dans un aussi court instant que l'espace de quelques heures, par exemple, l'estomac peut, sans se rompre, se distendre jusqu'à tripler et au delà sa capacité normale. La masse intérieure qui la produit n'est point tout à coup volumineuse; c'est d'une manière insensible qu'elle se gonfle en quelque sorte; l'action dilatante qu'elle exerce sur l'estomac, est donc lente et graduée. . . . C'est ainsi que nous concevons que l'estomac soit parvenu à se dilater au point de contenir 35 livres de liquide ainsi que le rapporte M. Renault."

system of determining the functions of living parts, from the results of observations on dead ones.¹

Admitting the possibility of extreme distension of the horse's stomach, we deny that it in any degree has a mechanical tendency to open the cardia during life. Let any one look at a horse's small stomach, placed beside the enormous quantity of food that animal is capable of devouring in a short time, and he will be forced to believe that, in perfect health, the organ is susceptible of great dilatation, without either involving opening of the cardia, or impairment of its vital power of contraction. To argue that because one part of a hollow viscus is dilated, the other must be so likewise, is in opposition to known facts. Moreover, my own experiments on dead horses' stomachs, have shown me that not always is extreme distension of the viscus with water followed by escape of the fluid through the cardia; it is or is not, according to the presence or absence of mechanical obstructions. The opening of the cardia, no less than its closure, is, in the living animal, doubtlessly owing to vital contraction of muscular fibres.

The reporters found their third proposition on the general truth that extreme dilatation of a hollow muscle is attended with impairment of its contractile property; thus they make the third a necessary sequence of the first proposition. Since we have impugned the latter, the former, in our opinion, falls to the ground. In asserting that before a horse can vomit, the muscular coat of the stomach must be paralysed, Mignon, in main part, re-echoed the theory of Renault, who several years previously had announced, that not only was the muscular action of the stomach useless, but opposed to vomiting, which only occurred when that viscus became excessively distended.² My own experiments, conducted for the purpose of ascertaining the effect of injecting a solution of tartar emetic into the veins of the horse, force me to look on those of M. Renault with great doubt; for I have yet to learn that an experimenter has the power of exciting at will efforts to vomit in the horse; and what I have seen leads me strongly to suspect, that when after injecting tartar emetic into the veins of a horse, and cutting open the abdomen, observers have indulged in the belief that they were witnessing efforts to vomit, they have only witnessed the violent efforts made by tortured brutes in self-defence.

The theory advocated by Renault and Mignon, is, as the latter admits, founded on the doctrine first promulgated by Bayle and Chirac, and of late rendered notorious by the singular experiments with which M. Magendie defended it. The French hippiatrists, in fact, having exclusively studied the mechanical part of the act of vomiting, were forced to decide between the opposite doctrines, defended by Haller and Magendie, as to the participation of the stomach in the performance of that act. The result has been, the declaration of their adhesion

¹ On a selon nous grand tort de conclure du resultat d'expériences d'amphithéâtres trop souvent imparfaites et sur des organes morts, à ce qui doit se passer au milieu des parties que la vie anime. Ne serait-ce pas une pretention trop étrange, que vouloir surprendre, à l'aide de moyens si grossiers, si limités, si incomplets, si matériels, le secret de ces phénomènes si insaisissables, si changeants et surtout si merveilleux de simplicité, qui se produisent au sein de toute organisation vivante! (Mignon's Report, loc. cit., p. 197.)

² Bulletin Soc. Centr. de Méd. Vétér., tome ii, p. 218, 219.

to their illustrious countryman; a result which would in all probability have been different, had they rigidly tested the validity of the claims of his doctrine,¹ and have taken due notice of the positive observations of Wepfer, Haller, and Rudolphi, and of the recorded cases in which vomiting occurred when extrinsic pressure was removed from the stomach, either by palsy or destruction of the abdominal muscles.

That the energetic concurrence of the nervous power, and of the action of the expiratory muscles of the abdominal wall, takes part in the act of vomiting, as stated in M. Mignon's fourth proposition, all will grant; but that it is fourth in the order of succession we deny, for it is well known that purely nervous phenomena are the first signs of a disposition to vomit; and that it is fourth in the order of importance we deny, on the ground of the experimental truth, that, whereas the condition of the stomach is unimportant, a participation of the nervous system is indispensable, before the movements necessary to vomiting can be effected. So unimportant, indeed, is the condition of the stomach, that vomiting may occur without it, as proved by M. Magendie's experiment of substituting a pig's bladder for a dog's stomach; and it is not a little surprising that the reporter, who seems to have laid so much stress on it, should not have discovered that his idea of "excessive dilatation of the stomach being the condition, *par excellence*, of vomiting in the horse", was opposed to the result of an experiment which he invoked in defence of his views.

Now that we have subverted three out of the four propositions on which Mignon's theory is founded, we should be at a loss to guess what might be his idea as to the reasons why the horse rarely vomits, if, in a discussion which ensued on his report,² he had not unequivocally avowed assent to Girard's *mechanical* doctrine, the fallacy of which we have already demonstrated.

Thus we have completed a critical and historical account of the opinions emitted on the subject; and, having proved that all observers have attributed the rarity of vomiting in the horse to mechanical causes *which do not exist*, it remains for us to determine whether there are any impediments to it in the nervous system of the horse. With this object in view, let us inquire into the action of emetics in the horse.

III. WHAT IS THE ACTION OF EMETICS ON THE HORSE? It is so well known among veterinary pathologists, that the horse is not acted on by emetics as is the dog, that, while they frequently prescribe them in the diseases of the latter, they never do so in those of the former. The most celebrated writers on veterinary therapeutics, generally exclude emetics from the list of medicines available for the relief of the diseases of the horse, and refuse to the emetic, *par excel-*

¹ Sound critics have long since decided that Magendie's conclusions on vomiting are not warranted by his experiments, which, at utmost, prove that vomiting may occur by the extrinsic pressure of the diaphragm and abdominal muscles, without the active co-operation of the stomach. They certainly do not disprove, that under ordinary circumstances, the stomach aids in the ejection of its contents by the œsophagus.

² Les vraies raisons, les seules bonnes et importantes raisons de l'impossibilité du vomissement, indiqués et décrites d'abord par Bertin, ont été parfaitement développés par M. Girard, dans son mémoire de 1810; et surtout dans sa notice de 1841.

lence,—the potassio-tartrate of antimony,—any emetic virtue in the equine species, when administered internally.¹ Were this the sum total of our information on the point at issue, our inquiry would be at an end; but since it has been alleged by several French experimentalists, that the horse makes efforts to vomit when potassio-tartrate of antimony is injected into its veins, it is imperative that we should test the empirical grounds of such allegation.

We find it stated by M. Dupuy that he has succeeded in producing attempts to vomit in the horse, by injecting tartar emetic into the crural or jugular veins, in doses varying from six grains² to two drachms.³ The director and professor of the Veterinary School at Lyons, in their account⁴ of the action of tartarized antimony, thus express themselves: “Injected into the veins of the large herbivora, in doses of from nine to eighteen grains, tartar emetic occasions vomiting, or the phenomena which accompany that act of evacuation.” They give no evidence to prove this statement.

Finally, we have to quote an experiment which was performed by MM. Leblanc and Mignon:⁵ “Thirty-six grains of tartar emetic injected into one of the jugular veins of a horse,—a longitudinal opening about seven inches long, made on the side of the linea alba,—exploration of the stomach with the finger,—contractions of the viscus insensible,—contraction of the abdominal muscles alternating with that of the diaphragm, the latter taking place during inspiration; at this moment the right crus of the diaphragm is forcibly extended, but the œsophagus is only moderately compressed between its fleshy lips,—the intestines forcibly escape through the wound in the abdomen,—

¹ “In the horse vomiting cannot be excited.” Introductory Lecture on Chemistry, by Mr. Morton, *Veterinarian*, vol. xiv, p. 767. Le cheval et nos herbivores ruminants sont des animaux chez lesquels nos émétiques sont sans puissance. Bouchardat, *Formulaire Vétérinaire*, p. 258. Of the action of potassio-tartrate of antimony in the horse, Mr. Percival says, “I give it in doses of a drachm and two drachms...Of little palpable efficacy given internally.” Percival, *On Form and Action in the Horse and the Effects of Medicine in Horses*, p. 32. Nimrod (*Veterin.* vol. x, p. 415) states that the potassio-tartrate of antimony has always been considered among sportsmen as a cleanser of a foul habit in horses, in doses of from one to three drachms. In a discussion which took place at the Royal Academy of Medicine of Paris on the subject of vomiting, M. Renault thus expressed himself (*Bulletin Soc. Centr. Vétér.* tom. ii, p. 219). “I made a crucial incision into the abdomen of horses to which I had previously given tartar emetic. On introducing the hand into the wound, I felt the stomach forcibly contracting, and its contractions became visible on its being made to protrude through the abdominal walls. These contractions did not cease until the stomach was excessively dilated, and then only did vomiting occur. I concluded from these experiments that the muscular coat is an obstacle to vomiting.” After the undeniable proof we possess of the potassio-tartrate of antimony not acting as an emetic when administered to the horse, the result of M. Renault's experiments affords much surprise, which is raised into incredulity on reflecting that the stomach could not be pressed upon by the abdominal walls, because crucially divided. That they were not reunited by suture, is evident from his statement that he continued to observe the state of the stomach. It would appear fair to argue, that if a stomach were itself inactive, and not compressed by extrinsic force, its contents could not be evacuated.

² *Veterinarian*, vol. iii, p. 529.

³ *Ibid.* viii, p. 575.

⁴ Dictionnaire Général de Médecine et de Chirurgie Vétérinaires, et des sciences qui s'y rattachent, par MM. Lecoy, Rey, Tisserant, Tabourin.

⁵ *Bulletin cit.* p. 242.

eight minutes after this injection of tartar emetic, appearance of some nausea, or violent and simultaneous contraction of lower abdominal muscles and diaphragm. The whole intestine is removed in order to see the stomach well; the viscus follows, like a pendulum, the alternate movements of contraction and relaxation of the diaphragm; the stomach, which is tolerably distended, is the seat of slow, continuous contractions, which always commence at the same point, the pylorus. The contraction and relaxation of the lower abdominal muscles and diaphragm take place gradually and slowly. This partition yields little by little, but uninterruptedly, to the abdominal muscles; these act similarly with regard to the diaphragm, so that if we form a material idea of these respiratory powers, we can compare them to two machines always equidistant, and directed in the same course, each describing the half of a double cone, whose limited base of reciprocal excursion would be in the middle. When one of them is at the summit, the other is at the base, and *vice versa*; consequently, the action of the diaphragm increases in proportion as that of the abdominal muscles diminishes. These forces are therefore essentially respiratory. The one—the diaphragm—is active during inspiration; the other—the force generated by the abdominal muscles—is expiratory. Renewed, sudden, violent, and simultaneous contractions of the diaphragm and abdominal muscles occur; the latter even appear to augment their action in proportion as the diaphragm relaxes; it is the nausea, or the manifestation of the effort. No vomiting has occurred; finally, the animal expires.”

From this account it appears that, on seeing violent efforts of the abdominal muscles and diaphragm of a horse, into whose veins tartar emetic had been injected, and from whose abdomen all the intestines had been removed through a large opening, MM. Leblanc and Mignon inferred that the emetic was producing its specific action by exciting efforts to evacuate the stomach through the œsophagus. No vomiting occurred, and therefore the experiment, *primâ facie*, establishes,—firstly, that the horse makes efforts to vomit when potassio-tartrate of antimony is injected into the veins; secondly, that as those efforts are not followed by vomiting, there must be some mechanical impediment to the escape of matters through the cardia. Both these conclusions are erroneous; and they are so for the following reasons. The description given of the movements of the abdominal muscles and diaphragm, is not such as to prove beyond doubt that they were efforts to vomit. Confessing adhesion to the doctrine that the diaphragm takes an active part in vomiting, we deny that it does so by virtue of an *inspiratory movement*, and that, as it *relaxes*, the abdominal muscles make a sudden effort, as in forcible expiration. The act of vomiting is one *sui generis*, and not a respiratory act.¹ Let any one try to simu-

¹ Since the terms in which M. Mignon has related his experiment may leave some doubt as to his idea of the nature of the movements in vomiting, it may be cleared up by his ulterior exposition of that idea. “Ce phénomène (le vomissement) commence aux derniers termes de l’*inspiration* pour finir dans l’*expiration*. C’est dans ce dernier temps ou pendant le relâchement du diaphragme qu’a lieu le rejet des matières sans aucun doute; mais c’est dans l’*inspiration*, ou par le fait d’une violente et brusque contraction du diaphragme, aidé de l’action des muscles abdominaux, que l’estomac verse son trop-plein dans l’œsophage.”—*Op. cit.*, p. 244.

late the effort to vomit, or study the real effort in his own person, and he will feel that the glottis having been closed after a deep inspiration, the diaphragm and abdominal muscles act simultaneously, so as to press the stomach between them. To this it may be objected that, for the diaphragm to descend while the glottis is closed, the air in the chest should be rarefied, which is an unlikely occurrence. The fallacy of this objection is demonstrable by experiment, as Dr. Sharpey has long since shown in his lectures on anatomy and physiology in University College. A bandage being closely passed round the lower part of the chest, it is easy to press down the diaphragm at will; on doing so, the bandage becomes loose, evidently owing to drawing in of the cartilages of the lower ribs by the descending diaphragm. Thus the augmentation of the thoracic cavity in its long axis, is compensated by its decrease in the transverse; and it becomes obvious that the diaphragm may descend when the glottis is closed, without enlarging the chest, and therefore without rarifying the contained air. That, however, the witnessed efforts were in reality the pangs of death, is rendered more than probable by the terms in which the narrative of the experiment ends,—“*enfin, l'animal expire.*”¹

But conceding, for the sake of argument, that the movements observed were efforts to vomit, we maintain that it is not just to conclude that, because they were not followed by vomiting, there must have been some mechanical obstacle to the escape of matters through the cardia. As the experiment was performed, it was impossible for the stomach to be pressed upon by either the abdominal muscles or diaphragm, and therefore there was no chance of its contents being evacuated through the œsophagus. Protected, as the horse's stomach is, by the far-back projecting ribs, it can only receive pressure from the abdominal muscles, indirectly, through the intestines. When these are removed, the viscus cannot be pressed upon by those muscles, and the pressure of the diaphragm on it is very slight, because the stomach undulates like a pendulum, backwards and forwards, in the empty cavity, without meeting with the least resistance.

The evidence which we have adduced, and which is all that we have been able to collect, in favour of the doctrine that efforts to vomit can be excited in the horse by injecting tartar emetic into its veins, may be thus briefly summed up:—

1. M. Lecoq and his colleagues (the veterinary professors of Lyons) have expressed an opinion in the affirmative, without publishing the grounds of their belief.

2. The experiment of MM. Leblanc and Mignon, which professes to prove the doctrine, appears to have been conducted with so little regard to the exclusion of sources of error, that it would be unwarrantable to draw any positive inferences from it.

3. As we are not acquainted with the details of the experiments which formed the basis of M. Dupuy's statement in support of the above doctrine, they need confirmation; a need which becomes im-

¹ As the performance of such experiments in horses renders it indispensable that they should be thrown on the ground and secured, great caution should be observed in interpreting the muscular efforts; for when a horse is cast he struggles violently for liberty, even before a bold stroke of the knife has made a gash seven inches long into its belly, and all the bowels have been removed.

perative, on reflection that the horse is not susceptible of emesis by the introduction of any medicinal substance into the stomach, and that as our knowledge of the action of emetics in the dog proves, that when introduced into the veins or into the stomach their effects differ in degree and not in kind, there is strong ground for the belief that the horse is unsusceptible of the specific action of emetics, even when directly injected into its circulating system.

In order to settle the question, I determined to appeal to experiment, and procured for the purpose a horse and a mule, both of sound constitution. I have injected into their jugular veins solutions of tartar emetic, in 5, 30, and 50 grain doses, but have never seen efforts to vomit; to avoid misunderstanding I may say, that I have never seen any such thing as the animals thus experimented on take a deep inspiration, fix the chest, and make sudden and forcible exertion with the abdominal muscles. Inasmuch, however, as I noticed some preternatural phenomena of muscular action in two of the experiments, a detailed account of them is rendered necessary. Twenty minutes after injecting into the left jugular vein of a horse thirty grains of tartar emetic, dissolved in three ounces of water, the muscles generally became rigid; but there was no movement caused by any of them. It was static, not dynamic contraction. After this, I noticed a good deal of twitching of the muscles of the fore and hind limbs, and of those of the lower part of the neck; but the abdominal muscles acted evenly, though with more frequency than usual, as the respiration became a good deal accelerated. At the end of three hours the twitching had almost ceased, and had done so completely; and the animal had resumed eating in a little less than four hours.¹ Lest it should be feared that I misconstrued the phenomena of muscular contraction, I may say that almost every five minutes, and sometimes oftener, I took notes of the state of the animal; and did not note such words as *spasm* or *effort*, but avoided the danger of erring in judgment by describing in periphrases all I saw. It is important to notice that in the same animal, on a subsequent day, I injected 30 grains of tartar emetic in $1\frac{1}{2}$ oz. of water, without producing any sensible effect whatever. I injected 50 grains of tartar emetic, dissolved in $1\frac{1}{2}$ oz. of tepid water, into the jugular of a mule, with the following result. Fourteen minutes after the injection, the animal did not present any change; but, in a few minutes more, left off eating and stood still. In the ensuing thirty-seven minutes, the muscular system was several times subject to momentary rigidity, which, with the exception of slight elevation and extension of the head, was unaccompanied by any movement. This muscular rigidity simulated the tetanic state, and contrasted strongly with the state of the muscles of the same animal while voiding fæces and urine; in an hour and fourteen minutes the mule re-

¹ A few minutes after I had injected the tartar emetic, the animal commenced purging, and continued doing so for an hour and a half. To determine whether this phenomenon was due to the tartar emetic or to the water, I injected three ounces of tepid water into the jugular vein of a mule—it had no effect; but purging was occasioned in fourteen minutes by injecting into the same vein, after the lapse of an hour, six ounces of tepid water. In none of my subsequent experiments was this purging produced,—a fact which needs further experience for its explanation.

sumed eating, and presented no other symptoms. If I had been a little less cautious in the avoidance of fallacy, it is very likely I should, in observing these muscular phenomena in two of the experiments, have succeeded in seeing attempts to vomit; but they assuredly were not such, for they did not in any degree resemble the efforts made by the same animals to evacuate the bladder and rectum, or the efforts made by the dog and man to empty the stomach through the œsophagus.

Considering the vague manner in which M. Dupuy alludes to his experiments, and, on the other hand, confident of the fairness with which my own have been conducted and recounted, I feel myself justified in opposing my conclusions to his, and in stating that all the attempts hitherto made to excite efforts to vomit in the horse by emetics have failed. This unsusceptibility to emetic action, and the very rare manifestation of the phenomena of vomiting by the horse, must obviously be regarded as cause and effect, and, consequently, as the answer to the question, Why does the horse rarely vomit?

7th February, 1852.

ON THE CAUSE AND PREVENTION OF DEATH FROM CHLOROFORM.

By JOHN SNOW, M.D.

(Concluded from p. 423 of May number.)

I HAVE examined the viscera of the chest, and kept notes of the appearances, in thirty-seven animals killed by chloroform. They consisted of two dogs, twenty-two cats, one kitten, three rabbits, three guinea-pigs, two mice, two larks, and two chaffinches. Many of the animals were opened immediately after death, and the rest within a day or two. The lungs were not much congested in any instance. In seven of the animals they were slightly congested; but, in the remaining thirty, the lungs were not congested. They were generally of a red colour, but in a few of the cats they were quite pale. I ascertained the specific gravity of the lungs of two of the cats, in which they presented the amount of vascularity I have most usually met with. They were weighed first in air, and then in distilled water, and the specific gravity was found to be 0·605 in one instance, and 0·798 in the other. As many of the animals died in a way resembling asphyxia, the respiration ceasing before the circulation, it might at first be supposed that we should meet with the same congestion of the lungs; but, by the time that the respiration is altogether suspended by the action of chloroform, that agent has begun already to influence the heart, which does not inject the blood into the lungs with the same force as when the respiration is mechanically prevented, whilst it is in full vigour. Besides, in the gaspings which so often take place when the heart is ceasing to act, the animal inhaling chloroform draws air freely into the lungs, whilst the asphyxiated animal is prevented from doing so. Mr. Nunneley and Mr. Thomas Wakley met with congestion of the lungs in many of the animals which they killed with chloroform. I am unable to explain how this happened; but Mr. Richardson, who

spoke lately at the Medical Society of London, when I read a paper on the subject of which I am now treating, said, "when animals had been killed by it, he had found that the red colour of the lungs was invariable, but those organs were not congested, neither was the brain."¹

As regards the condition of the heart, it was found in the two chaffinches that the right and left auricle were filled with blood, whilst the ventricles were empty. The condition of the heart in the larks is not mentioned, but in all the thirty-three quadrupeds the right auricle and ventricle were filled with blood. In ten of them, these cavities were much distended; and, in some of these instances, the coronary veins on the surface of the heart were distended also. The left cavities of the heart never contained more than a small quantity of blood, not exceeding about a quarter of what they would hold.

The head was examined in only ten of the animals. The substance of the brain was found to be of the natural vascularity, and the sinuses were not very much distended, except in two instances.

With respect to the state of the blood, it may be mentioned, that in every instance in which the chest was opened within an hour after death, the blood which flowed from the cut vessels coagulated immediately and firmly. In eighteen of the animals in which the blood was examined in the heart or large vessels, a day or two after death, it was found to be coagulated in ten, loosely coagulated in seven instances, and quite fluid in one instance.

I have not met with air in the blood-vessels, either in the thirty-seven *post-mortem* examinations of which I retain notes, or in any of the numerous other animals that I have opened after they have been killed by chloroform; nor have I met with it in animals killed with ether and various other volatile narcotic substances.

The appearances met with in the cases of accident in the human subject differ somewhat from those described above. In some of the cases, however, the *post-mortem* appearances have been modified by the artificial respiration and other measures employed with a view to restore the patient. The following is a brief summary of the inspection in the fatal cases in which an examination took place after death.

CASE I. Hannah Greener. *Lungs* congested; epiglottis reddened, as also mucous membrane of larynx. *Heart* healthy; dark fluid blood in both its cavities; very little in the left. *Brain*, externally and internally more congested than usual. Liver, kidneys, and spleen, congested.²

CASE II. Mrs. Simmons. *Lungs* congested, crepitant, no extravasation; congestion of lining membrane of bronchi; great injection of pleura; six ounces of bloody serum in right, two ounces in left. *Heart* flaccid; cavities empty; inner surface of all the cavities deeply stained; six drachms of bloody serum in pericardium. *Brain*. General aspect, colour, and consistence, normal. A larger quantity of blood than usual flowed from the vessels of the dura mater. Superficial vessels of the brain moderately distended. Two or three ounces of fluid blood, intermixed with bubbles of air, flowed from the sinuses of the dura mater. *Blood*, quite fluid in every part of the body.³

¹ Med. Times and Gaz., vol. i, p. 253.

² Lancet, 1848, vol. i, p. 161.

³ Med. Gaz., vol. xlii, p. 81.

The cavities of the heart had evidently been emptied after death by the artificial respiration which was employed; and if the bubbles of air met with in the sinuses of the dura mater did not enter during the dissection, they were probably introduced into the circulation by the rupture of the air-cells, whilst inflating the lungs.

CASE III. Patrick Coyle. *Lungs* studded with tubercles; abscess in each; lower part congested; pleura adherent. *Heart* enlarged, pale, and soft; two or three ounces of serum in pericardium; blood-vessels with dark fluid blood. *Brain*, with its membranes, natural and healthy.¹

CASE IV. No inspection.

CASE V. Madlle. Stock. *Lungs* visibly engorged in the lower lobes, "pulmonary vesicles dilated by the air blown in during the last moments of life, with a view to reanimate the patient." *Heart* flaccid, of the usual size; cavities absolutely empty. *Brain* firm; no drops of blood escaped on cutting into it. *Blood* very black. Air was met with in the pulmonary veins, in the carotid arteries, in the veins and sinuses of the head, and in the veins generally throughout the body.²

In this case also the cavities of the heart had been emptied after death by the artificial respiration. The air-cells were permanently distended by the same cause, and some of them must have been ruptured to allow the air to enter the pulmonary veins, from whence, being passed through the left cavities of the heart, it was forced by the contractility of the arteries into the veins of various parts of the body. Many of the French physicians who have written, or spoken, on this case, seem to have overlooked the circumstance that the arteries have the power of expelling their contents through the capillaries into the veins, after the heart has ceased to act.

CASES VI AND VII. I have met with no account of any examination.

CASE VIII. John Griffith. *Lungs* a good deal congested, and discharged, when cut, a large quantity of bloody serum. *Heart* large; its ventricles and auricles empty; its condition flabby; the substance of the left ventricle rather softer than natural. *Brain* healthy; no other appearances than in persons dying when in full health.³ It is not stated whether artificial respiration was performed in this case, but it most likely was.

CASE IX. J. Verrier. *Lungs* of a very black colour, otherwise their tissue was healthy. *Heart* flaccid and empty, [artificial respiration had been performed.] *Brain* normal; sinuses of dura mater contained a considerable quantity of black uncoagulated blood. *Blood*, fluid, except a fibrinous clot on the Eustachian valve of the heart.⁴

CASE X. Samuel Bennett. *Lungs* of a dark venous hue throughout, a large quantity of blood escaping from them when cut into. Mucous membrane of trachea and bronchi congested. *Heart* rather large but flabby; auricles empty; each ventricle contained about an ounce of semi fluid blood; (the lungs had been inflated.) *Head*. Sinuses and veins contained blood, but not to any remarkable amount. But few bloody points occurred in cutting into the cerebral mass. *Kidneys* congested.⁵

¹ Med. Gaz., vol. xliii, p. 683.

² Ibid., vol. xlii, p. 212.

³ Ibid., vol. xliii, p. 684.

⁴ Ibid., p. 745.

⁵ Lancet, 1849, vol. i, p. 206.

CASE XI. Madame Labrune. No inspection reported.

CASES XII and XIII. No inspection.

CASE XIV. Young lady, Berlin. *Lungs* presented nothing morbid; the bronchi contained a little bloody froth. *Heart* was soft, flabby, and collapsed. Decomposition had commenced in it. Its cavities were empty. The blood was of the colour and consistence of cherry juice. *Head*. The membranes of the brain were slightly congested. The sinuses were not unusually full of blood. The substance of the brain was in its natural condition.¹

CASE XV. Artilleryman. *Lungs* emphysematous. *Heart*. Its right cavities were filled with fluid blood. *Head*. The sinuses of the dura mater contained less blood than usual, and the brain was pale.

CASE XVI. Alex. Scott. *Lungs* extremely congested. *Heart* feeble and flabby, not particularly distended; about two ounces of fluid blood on the right side; not more than half an ounce on the left. *Head*. Much congestion of the dura mater; the grey matter of the brain was dark and congested; fluid was found in the subarachnoid space, and a considerable quantity of it in both ventricles. *Kidneys* congested.²

CASES XVII and XVIII. No inspection.

CASE XIX. Madame Simon. *Lungs* somewhat congested, and emphysematous. *Heart* flaccid, of middle size. Right cavities filled with liquid dark-coloured blood, mixed with some fibrinous clots. The left cavities contained similar blood, in much smaller quantity.³ Chloroform was detected in the blood, in the lungs, spleen, and various other organs, by a chemical process nearly the same as one which I employed about two years ago for the same purpose.⁴ It was detected in the blood even when it had become putrid. As chloroform cannot be perceived by its odour in the dead body, and as the *post-mortem* appearances it leaves are neither striking nor constant, its easy detection by chemical means is of considerable importance. Its presence does not prove, however, that death was caused by chloroform, but only that this agent was taken at or near the time of death; for it can be detected with great facility in portions of the body removed by surgical operation, when the patient is under its influence.

CASE XX. Thos. Hutton. *Lungs* much loaded with fluid blood, and containing a large quantity of serous infiltration. *Heart* flabby and soft; its cavities contained only a very small quantity of dark fluid blood. (The lungs had been inflated.) The muscular substance of the heart was examined with the microscope; "here and there a minute oil globule could be observed in the muscular fibrillæ, but nowhere did this amount to fatty degeneration." *Head*. Vessels of the dura mater, and on the surface of the brain, gorged with fluid blood. A considerable quantity of serous fluid in the cavity of the arachnoid, and a large quantity flowed also from the spinal sheath. The substance of the brain was very soft. (The weather was warm.) *Kidneys* congested.⁵

CASE XXI. No inspection.

CASE XXII. At St. Bartholomew's Hospital. *Lungs*. Their texture

¹ Med. Gaz., vol. xlv, p. 484.

² Lancet, 1850, vol. ii, p. 21.

³ L'Union Médicale, January 29, 1852.

⁴ Med. Gaz., vol. xlv, p. 321.

⁵ Med. Times, 1851, vol. ii, p. 98.

was healthy, but they appeared more than usually collapsed and dry. Their large blood-vessels were not over filled. The mucous membrane of the large bronchi and trachea was turgid. *Heart* healthy, natural in its texture. The right auricle and ventricle were distended with blood: The left auricle and ventricle contained very little blood. The blood was all fluid, and presented a brownish purple hue, like that which is usually met with in the spleen. *Head*. Some adhesions of the membranes of the brain, from disease at a previous period. Otherwise the appearances were healthy.¹

CASE XXIII. At Stockholm. No report of any examination.

It will be remarked, that congestion of the lungs was more frequently met with in the above cases, and to a greater extent, than in the animals which I killed with chloroform; and, also, that the blood was more frequently fluid. A fluid state of the blood is very frequent in sudden death, in the human subject, from any cause, as I have had many opportunities of verifying; and the reason why it is less often met with in the smaller animals is, probably, because their bodies cool more quickly after death.

As regards the prevention of death from chloroform, it must be evident, from what was previously stated, that the chief means to be employed for this purpose, is to have the vapour sufficiently diluted with air. The methods of ensuring this dilution were previously alluded to; but I should like to observe, in this place, that it would be well if all those who do not feel confident that they can employ chloroform without incurring any risk to the patient, were to confine themselves to the use of sulphuric ether, an agent which is incapable of causing death in the sudden manner in which it has taken place in all the accidents from chloroform previously detailed.

Many persons at one time supposed that the deaths from chloroform were caused by a want of care in selecting the cases for its employment—an opinion natural enough in those who had not had the time or opportunity to study all the physical conditions connected with the exhibition and action of the agent. The particulars of the fatal cases which have occurred show, however, that the unfortunate results did not depend on any peculiarity of the patients; and the truth is, that whilst chloroform, if not well managed, may cause the death of the most robust and healthy person, it may, on the other hand, with due care, be safely administered to the most feeble and diseased, as I have had numerous opportunities of observing. It is, undoubtedly, both proper and desirable to take into consideration every circumstance connected with the condition of the patient, before administering chloroform; but, wherever there is severe pain to be prevented or removed, it may, according to my experience, always be employed without ill consequences, if sufficient care be observed.

There is a very general impression, that the use of chloroform is unsafe where disease of the heart exists, although no good reason has been given for this impression. I may remark, in the first place, that no great amount of disease of the heart has been met with in any of the fatal cases of administration of chloroform, in which the body has

¹ Med. Times and Gaz., 1852, p. 319.

been examined; and, in the second place, that I have several times given this agent during surgical operations, when very marked disease of this organ existed, and to a great number of old people, in whom the arcus senilis in the cornea might lead to suspicion of its being affected with fatty degeneration. The fact of chloroform being able to arrest the action of the heart, might appear to indicate that it is prejudicial to that organ; this circumstance, however, does not arise from any peculiarity in the mode of action of this agent, but only from its physical properties being such that it is capable, under certain circumstances, of being absorbed in sufficient quantity to narcotise the heart. I find that sulphuric ether will produce the same effect, if the inhalation be continued by artificial respiration as soon as the natural breathing ceases; and that diluted alcohol will also arrest the heart's action, if it be injected into the coronary arteries immediately after death, whilst contractions are still taking place. The action of chloroform on the circulation, when sufficiently diluted with air, is that of a stimulant. It has a very marked effect in preventing syncope during surgical operations; and, as syncope is attended with danger in diseases of the heart, there is reason to believe that the careful administration of chloroform is a means of safety to patients who, notwithstanding the heart disease, have to undergo an operation. Moreover, the pain of even a slight operation has generally the effect of accelerating the pulse to about twice its natural frequency; and it is well known that mental excitement, muscular exertion, or any other cause which has such an influence on the circulation, may occasion sudden death where there is disease of the heart; but, as the pulse usually remains of its natural frequency and force during an operation under the effects of chloroform, this circumstance further confirms the conclusion that the careful use of this agent is a source of safety, and not of danger, to the patient with heart disease. In these patients, however, I think it desirable to conduct the inhalation in such a manner that excitement and struggling may be avoided, and not to prolong the use of chloroform longer than is absolutely necessary, for protracted insensibility is sometimes followed by depression. I am happy to be able to quote the opinion of Dr. Sibson, who has paid great attention to the subject of chloroform, in favour of its employment under certain circumstances where there is disease of the heart. He says, "persons the subjects of heart disease, when the dread of a severe operation is great, may sometimes be peculiarly benefited by the careful and short production of anæsthesia during the cutting part of an operation."¹

It remains now to treat of the measures to be adopted in case of an overdose of chloroform; and it may be remarked in the commencement that, in any case in which the respiration and circulation both continue after the lungs have been emptied of the chloroform which was contained in them at the moment when the inhalation was discontinued, the patient will most likely recover, however alarming his symptoms may appear; for at this moment he begins to get rid of the chloroform, by its being exhaled from the blood as it passes through the lungs.

¹ Med. Gaz., vol. xlii, p. 111.

From the good effects of dashing cold water on the surface, applying ammonia to the nostrils, and using means of a similar character, for exciting respiration in certain cases of narcotic poisoning, it might at first be supposed that like measures would be very useful in accidents from an overdose of chloroform. It must be borne in mind, however, that in the ordinary and safe administration of this agent, when it is desired that the patient should lie without flinching during a surgical operation, the sensibility is often temporarily diminished to the extent that no reflex motions are caused by the strongest stimuli that can be applied; and it is impossible that a further dose of chloroform should restore the sensibility. I have dashed cold water on animals, and applied ammonia to their nostrils, without the slightest effect, whilst the insensibility was kept within safe bounds; and, on one occasion, Mr. Marshall and I found that the strongest ammonia produced no effect on a guinea-pig, at a time when it was still sensible to having the nose and feet pinched with the forceps. In cases in which the action of the heart might be arrested by the influence of a few ounces of blood overcharged with chloroform, whilst the body at large was not insensible, these ordinary excitants of respiration might have some effect. There would, therefore, be no impropriety in trying such means, provided they were not allowed to occupy the time which ought to be employed in more important measures; and patients have recovered under their use, who appeared in danger; but it is most probable that these patients would have recovered spontaneously, if nothing had been done, for I have in numerous instances observed the unassisted recovery of animals that appeared dead from the effects of chloroform.

The most important measure in the treatment of a case of threatened death from chloroform is artificial respiration, which, I believe, would restore the patient in most instances, if it were put in force within half a minute after the natural breathing had ceased.

The following experiment, in which I was assisted by Mr. Marshall, shews the success of this measure on an animal, when promptly applied.

EXPERIMENT VII. A cat was made insensible by breathing chloroform in a large jar. An incision was then made in front of the neck, the trachea was opened, and a tube was introduced and secured. A bladder, filled with air containing four per cent. of vapour of chloroform, was attached to the trachea tube, by means of a stop-cock, with which it was armed. The stop-cock being opened, the cat breathed to and from the bladder. The capacity of the bladder was a hundred and twenty-five cubic inches, and five minims of chloroform had been introduced previously to filling it with the bellows. A fresh bladder, of the same size, charged with chloroform and air in the same manner, was substituted every three or four minutes for the former one. After a time, the breathing began to be feeble, and, twenty minutes after the inhalation from the bladder commenced, it ceased altogether. The action of the heart continued, however, to be very distinctly heard with the stethoscope for half a minute, when its pulsations were becoming slow. At this moment the stethoscope was removed, in order that I might assist in commencing the artificial respiration, which was performed by attaching a bladder filled with air to the tube in the trachea, and making gentle pressure on the bladder about thirty times a minute.

On listening to the chest again, just after the artificial respiration had been commenced, the heart was heard beating with extreme rapidity. After the artificial respiration had been performed for about a minute, the cat was observed to breathe of itself. The bladder was removed, and it was allowed to breathe through the tube. It began to show signs of sensibility almost immediately, and in ten minutes it had recovered nearly altogether from the effects of the chloroform. At this time the cat was made to inhale air containing ten per cent. of vapour of chloroform; twelve and a half minims having been put into one of the bladders previously used. Both the breathing and the heart were soon affected, the breathing being at times very quick, and at other times feeble, and the action of the heart being rapid, and occasionally almost inaudible. At the end of about three minutes the bladder was changed for another, containing the same quantity of chloroform and air; and, in three minutes more, or six minutes after the beginning of the inhalation, the cat ceased to breathe. The heart's action had become almost inaudible before the breathing ceased. It was, however, just perceptible afterwards, though very feeble and indistinct. Artificial respiration was set up as before, with a bladder full of air, within half a minute after the cat ceased to breathe. In a little time the action of the heart became more audible, and in a minute or two the cat breathed by its own efforts. In a very few minutes, and before the animal had recovered its consciousness and voluntary motion, the experiment of making it breathe air charged with ten per cent. of vapour was repeated in the same manner. Two bladders were used as before, and the breathing ceased again in six minutes. The sounds of the heart became very indistinct a little time before the breathing ceased, and, when the cat ceased to breathe, no sound of the heart could any longer be heard. Artificial respiration was commenced immediately, and, in about half a minute, feeble and rapid sounds of the heart could again be heard. In a minute or two the heart's action was very audible, but it was two or three minutes before the breathing recommenced by the muscular action. In two or three minutes more the cat was in a fair way to recover altogether from the effects of the chloroform, when it was made the subject of a different kind of experiment.

I believe that the breathing would have recommenced after the first inhalation, and that the cat would have recovered spontaneously, without the aid of the artificial respiration; but I consider that its restoration after the second, and more particularly after the third inhalation, was entirely due to the artificial respiration; for I have never seen an animal recover without assistance, when the breathing and action of the heart had been simultaneously arrested by chloroform. The success of the inflation of the lungs was, however, altogether owing to its being promptly performed. I have often opened the trachea of animals as quickly as I could after the breathing ceased from the effects of chloroform, and then performed artificial respiration, but without ever restoring them; for the short delay occasioned by having to open the trachea, has always prevented the success of the measure.

The only kind of artificial respiration that could be performed with sufficient promptitude, in cases of accident in the human subject, would probably be by applying the mouth to that of the patient, and either

inflating the lungs, whilst the larynx is pressed back against the œsophagus, to prevent the air from going into the stomach; or else drawing as much air as possible from the lungs of the patient by a strong inspiration, and allowing them to be filled again by atmospheric pressure. In cases such as that of J. Verrier, at Lyons, the case at Stockholm, and some others previously related, where the breathing continued a little time after the heart had ceased to act, it is probable that the heart is so overpowered by the chloroform as to be past recovery, otherwise the breathing would restore its action: however, it would obviously be right to continue the breathing by artificial means after it should cease; and either in these, or in any other cases in which the artificial respiration should not restore the patient in a minute or two, it would be desirable to open the external jugular vein, and allow some blood to flow, whilst still keeping up the artificial respiration. We have seen that the right cavities of the heart generally become distended with blood in death from chloroform, and this distension may obviously offer an impediment to its returning action. I have not succeeded in restoring any animal by opening the jugular vein after artificial respiration had failed; yet I have noticed in opening the chest immediately after death, that the feeble contractions of the heart which still continued, were improved in force and extent by opening a vein and relieving the distension of the right ventricle.

I have frequently tried to restore animals by electricity, but have never succeeded, except when it was probable that spontaneous recovery would have taken place. When the breathing has been arrested by the continued action of chloroform, and the heart has been still acting, electricity has always restored the animal; but, as was previously stated, spontaneous recovery is very apt to take place under such circumstances; a very little assistance in the way of artificial respiration is always successful; and, moreover, none of the accidents in the human subject have happened in this manner. When, however, the action of the heart has been arrested by chloroform, I have never succeeded in restoring animals by electricity. I have applied it by means of Neeves' electro-magnetic battery, sending shocks through the chest, and also applying one wire to the nostrils, or back of the neck, and the other near the insertion of the diaphragm, and breaking and renewing contact, so as to keep up some amount of respiration. Notwithstanding this want of success, electricity is one of the means which might be tried in case of accident to a patient; but it is obvious that the chief measure to be relied on is artificial respiration put in force very promptly, and that blood should be taken from the jugular vein, if the patient does not very quickly begin to show signs of returning animation.

BIBLIOGRAPHICAL RECORD.

OBSERVATIONS IN SURGERY. By BENJAMIN TRAVERS, Jun., F.R.C.S. 8vo. pp. 230. London: 1852.

This is an interesting collection of essays on subjects in Practical Surgery. The topics discussed relate to Fractures, Injuries of the Head, Puncture of the Bladder, Stricture of the Male Urethra, Stone in the Bladder, Carbuncle, Burns, and Diseases of the Joints.

The following extract is quoted as a specimen of the clear style and instructive matter of the volume:—

“SPLIT BONES. The celebrated Petit has denied, in his work upon the subject, that a split bone ever occurs. I once dissected a limb, when a dresser, in which the shell of the tibia, on its integumentary aspect, was split nearly from end to end; and surgeons are familiar with the accident of detached or split processes, as *condyle* or *trochanter*. In the case to which I allude, the exact nature of the injury was not apparent before death, which was not immediate. The tibia was fissured into the ankle-joint, this cleft terminating superiorly in a transverse fracture of the bone, about four fingers' breadth from its head. The accident occurred from the passage of a waggon wheel across the limb in an aged man. No attempt at adhesive action had been instituted throughout the track of the fissure. The patient remained well until within forty-eight hours of his decease. He sank somewhat suddenly, but had no fever or other severe constitutional disturbance indicative of irreparable injury. I have seen a fracture of the clavicle, which might have been called a fissure. In this case, there was a cleft extending between the two curves of the bone, and occupying all its central or straight portion. This case was under Mr. Green's care, in St. Thomas's Hospital. The patient did well.

“In the museum of St. Bartholomew's Hospital, a fragment of an ulna is preserved, four inches long, and which was split off from the body of the bone by machinery. Here, the fracture was longitudinal strictly. In the College of Surgeons, there is a Hunterian specimen of fissured tibia, where the direction is precisely that of the long access of the bone. The fracture extends into the knee-joint. In the spring of the year 1850, I sent to the College collection, a specimen of split humerus from the horse, attended by a comminution of the scapula of a most extensive description. The accident occurred in the field, from a fall in jumping over a fence. The animal alighted upon an uneven surface, and crossed his forelegs upon coming to the ground. The head of the bone has undergone a perpendicular cleavage, such as might have been produced by the blow of an axe. In the same collection, there are specimens showing how grape-shots or musket-balls, striking the shaft of a long bone, as the femur, effect a perpendicular fissure into the nearest joint. I am of opinion, that split bones should form a distinct class in the catalogue of fracture. These fissures may be simple, but they are more commonly combined with comminution of a bone: they have also been noticed where the bone is broken transversely. The splitting may terminate at one end upon the exterior of the bone; but it is, I conceive, essential to the accuracy of the term, that the other terminus of the fracture should be within the circumference of the bone, or upon its synovial surface. Such an application of force as detaches a fragment after the production of fissure in the first instance, as happened to the specimen preserved at St. Bartholomew's Hospital, does not invalidate this general rule, being in its nature an exception.

“There are two practical remarks to be made upon the history of these

split bones. In the majority of cases, the mischief is continued into a joint, generally of large dimensions, as the elbow, knee, and ankle; secondly, split bones do not unite. This remark does not apply to fissures of the cranium. The circumstances are not the same; but when the shell of these larger shaft bones is extensively fissured, as here described, bony union will not follow. This opinion depends upon observation in part, and in part upon reasoning. I have suspected some of the causes of this failure to be: *first*, that split bones occur for the most part in old people; *second*, the cancellous structure is more injured, and to a greater extent, as evidenced by sanguinous effusion into the broken cells; *third*, there is an indisposition, arising from incapacity either to institute or promote the adhesive inflammation; *fourth*, the periosteum is not unfrequently separated from the bone, to an extent incompatible with its office as the source or nidus of a new bone.

"The following well authenticated case occurred in St. Thomas's Hospital, in the year 1815:—

"Michael Dixon, aged 13, was admitted on the 14th of September, under the care of Mr. Travers, into Isaac's ward in St. Thomas's Hospital, for a fracture of the right thigh-bone, a little above the condyle, his leg having been entangled in the spokes of a carriage-wheel. The broken parts were much displaced, and there was a small wound opposite the internal condyle. The limb was splinted in the semi-flexed position, and placed upon the heel. The leg had acquired a twist inwards, and the external condyle appeared to follow its movements, being also much displaced. Oct. 5. There is no union: the denuded condyle is now protruding through an ulcerated opening in the integuments. Nov. 18. Bone was this day removed with forceps. It comprised the whole of the external condyle of the thigh bone. The limb was now ordered to be laid straight. Early in December, the patient left the hospital: he could bend and extend the knee, walking tolerably with a crutch. The result of this case is corroborative of the difficulty, or rather the impossibility, of procuring union of split bones. No attempt of the kind is made in an instance where health and the period of growth might be regarded as likely to second the natural effort. It must be admitted, that this part of our inquiry calls for further illustration; and its interest is much enhanced by the comparative rarity of the accident.

"When both bones of the leg are broken, it has been noticed that the place of the two fractures occasionally varies. The late Mr. Clift once pointed out to me a Hunterian specimen, in the museum of the College, where the tibia has given way in its lower third, and the fibula is broken above its middle. It would appear that the injury to the fibula is here consecutive, or dependent upon the fracture of the tibia, rather than upon the proper and original cause of the accident. The main support of the limb having given way, an appeal is made to this lesser splint, which also yields; but the place of its fracture is determined by its own tenuity, and the action of very powerful muscles, now diverted to, and contracted upon, the weakest part of this remaining stay." (pp. 12-16.)

ON SYPHILIS, CONSTITUTIONAL AND HEREDITARY; AND ON SYPHILITIC ERUPTIONS. By ERASMUS WILSON, F.R.S. pp. 235. London: 1852.

Another book on syphilis! exclaims the professional reader of the list of new publications. Have we not some hundreds too many already, encumbering the shelves of our libraries? This is undoubtedly true; and yet syphilis is a disease on which useful treatises may still be written: and, after a careful perusal of Mr. WILSON's volume, we have much pleasure in stating that, while we cannot adopt all his views, we yet regard it as a not superfluous addition to medical literature. It is the well-written work of an accomplished practitioner, and is calculated to afford profitable mental exercise, as well as practical information, to those who attentively peruse it.

Mr. Wilson divides his book into eight chapters, as follows : I, The Syphilitic Poison ; II, Primary Syphilis ; III, Secondary, or Constitutional Syphilis ; IV, Evolution of the Syphilitic Poison by the Skin ; V, Local Actions of Syphilis ; VI, Congenital Syphilis ; VII, Hereditary Syphilis ; VIII, Treatment of Syphilis.

The unity of the syphilitic poison is maintained by the author ; and, we think, successfully. The various eruptions he regards as essentially the same ; the differences in their appearance, and in their course, being simply modifications caused by time, temperament, or treatment. Constitutional syphilis Mr. Wilson believes to be contagious ; and so do we : but we feel much difficulty in admitting that it is communicated in all the ways mentioned by the author, and we are not disposed to consider syphilis as so widespread and Protean a disease as Mr. Wilson regards it, nor do we think that his illustrative cases can be all fairly traced to a syphilitic source. The efficacy of the same methods of treatment in tertiary syphilis, and other affections which have a doubtful title to that name, render this, however, often a question of abstract pathology, and not one of direct therapeutic importance.

The author certainly exaggerates the tenacity of the syphilitic poison to the human organism. Many constitutional disorders formerly, and even now, ascribed to the venereal poison, arise from the abuse of valuable remedies ; and a more rational use of mercury, and the combination of mercurial with other remedies, has almost annihilated some of the most horrible forms of constitutional disease which at one time very frequently followed chancres, but which now are almost never seen, and which we must therefore consider to have been, not the inevitable sequence of the primary disease, but the consequences of the excessive administration of mercury, and the want of attention to other points now recognised as of essential importance in their treatment.

As we have already remarked, Mr. Wilson's volume is replete with interest, with instruction, and with passages suggestive of improving study : wherefore, we commend it to the profession. But in speaking thus favourably of the work, we are anxious not to be understood as recognising the soundness of all that it contains.

DISEASES OF THE LIVER. By GEORGE BUDD, M.D., F.R.S. Second edition. London : 1852.

The present is an enlarged and improved edition of a work already favourably known to the profession. It is a valuable practical treatise, abounding in original and highly-interesting cases and observations. The book is divided into an introduction, five chapters, and an appendix (regarding the liver-fluke). The following are the titles of the different chapters : I, Congestion of the liver from impediment to the flow of blood through the lungs or heart, and from other causes ; II, Inflammatory diseases of the liver ; III, Diseases resulting from faulty nutrition of the liver, or from faulty secretion ; IV, Diseases resulting from some growth foreign to the natural structure ; V, Jaundice.

INSANITY : ITS CAUSES, PREVENTION, AND CURE ; INCLUDING APOPLEXY, EPILEPSY, AND CONGESTION OF THE BRAIN. By JOSEPH WILLIAMS, M.D. Second edition. 8vo. ; pp. 317. London : 1852.

In the preface to the first edition, the author gives the following account of the origin of his work.

"The Lord Chancellor of Ireland having placed at the disposal of the President and Fellows of King and Queen's College of Physicians, a premium for an essay on some subject connected with the treatment of insanity, the President and Fellows consequently selected, and publicly announced, '*The use of narcotics and other remedial agents calculated to produce sleep in the*

treatment of insanity.' This essay having met with the favourable notice of the President and Fellows, is now submitted to the profession."

Many additions have now been made; and, notwithstanding the magnitude and variety of the subjects (as indicated by the title-page, which we have transcribed), the work is neither meagre nor superficial. Reference to particular topics is much facilitated by a copious analytical index. The work occupies an honourable place in the literature of insanity.

VARICOSE VEINS AND VARICOSE ULCERS. By THOMAS WILLIAM NUNN, Surgeon to the Western Dispensary; Demonstrator of Anatomy at the Middlesex Hospital. pp. 63. London: 1852.

This work is divided into three sections. The first treats of certain points connected with the Anatomy and Function of the Superficial Veins; the second, of the Pathology of Varicose Veins; while the third is devoted to the consideration of the Treatment of Varicose Veins and Varicose Ulcers.

We have perused MR. NUNN'S little book with much pleasure. It is written in a modest and clear style, undisfigured by any egotism; and we doubt not that, while fulfilling its object of "rendering the pathology of a series of diseased conditions of every day occurrence, less vague and inexact than it at present may be said to be", it will gain reputation for the author.

One important hint we must extract, referring to those cases of varicose veins which are produced by the pressure of the gravid uterus, or any abdominal tumour. "There is a point, in the management of these cases, not hitherto attended to—the preservation of a free route through the superficial abdominal veins—especially the epigastric, which form a channel of communication between the external iliac and the superior vena cava. Any cinch round the waist must prevent the economy from enjoying the advantage which its wise construction provides for. Moreover, in the case of pregnancy, the great enlargement, towards the close of gestation, of the mammary veins, with which the epigastric anastomose, much facilitates this change in the circuit of the returning blood." (pp. 48-9.)

Mr. Nunn is not an advocate for surgical interference by means of the knife or needle.

CHAPTERS ON MENTAL PHYSIOLOGY. By HENRY HOLLAND, M.D., F.R.S., Physician Extraordinary to the Queen, etc. 8vo. pp. 301. London: 1852.

This volume is a valuable addition to our medical literature; and a worthy sequel to the author's former work—*Medical Notes and Reflections*—by which he deservedly gained reputation as an elegant writer, and a sound physician.

The subjects treated of are—1. Medical Evidence; 2. Effects of Mental Attention on the Bodily Organs; 3. On Mental Consciousness in its Relations to Time and Succession; 4. On Time, as an Element in Mental Functions; 5. On Sleep; 6. On the Relations of Dreaming, Insanity, etc.; 7. On Memory, as effected by Age and Disease; 8. On the Brain as a Double Organ; 9. On Phrenology; 10. On Instincts and Habits; 11. On the Present State of Inquiry into the Nervous System.

CRITICAL DIGEST OF BRITISH AND FOREIGN MEDICAL JOURNALS.

[The Articles quoted or abridged are indicated by an asterisk.]

MONTHLY JOURNAL OF MEDICAL SCIENCE.

No. CXXXVII; BEING FOR MAY 1852.

- 1.* NEW MODE OF REDUCING STRANGULATED HERNIA. By T. A. WISE, M.D.
2. ON THE ORGANS IN WHICH LEAD ACCUMULATES IN THE HORSE, IN CASES OF SLOW POISONING BY THAT METAL. By GEORGE WILSON, M.D.
- 3.* ON THE NERVES OF THE ORBIT. By JOHN STRUTHERS, ESQ.
[Concluded from April Number.]
4. MEDICAL TOPOGRAPHY OF THE WESTERN COAST OF AFRICA. By D. RITCHIE, ESQ., R.N.
- 5.* AN ACCOUNT OF SOME EXPERIMENTS ON THE DIET OF PRISONERS. By ROBERT CHRISTISON, M.D.
6. REPORT OF THE DEPARTMENT OF PATHOLOGICAL ANATOMY IN THE ROYAL INFIRMARY OF EDINBURGH. Edited by DR. W. T. GAIRDNER, and MESSRS. DRUMMOND, J. C. HOWDEN, and J. CHISHOLM.
- 7.* ON GUARANA. By D. RITCHIE, ESQ.

NEW MODE OF REDUCING STRANGULATED HERNIA.

DR. WISE makes the following interesting communication in a letter addressed to PROFESSOR SYME:—

“The following are the particulars I promised to send you, regarding a new method of reducing strangulated hernia. While I had charge of an hospital in India, an elderly man was brought to it with a strangulated inguinal hernia. After in vain employing the usual means of reduction, I was preparing to liberate the gut with the knife, when a Mussulman gentleman suggested that the following method should be first tried, as he had seen it successful. As it appeared most simple and effective, I at once proceeded to try it. The patient was placed upon a table, and a long sheet, folded several times on itself, was carried round the lower part of the abdomen of the patient, was twisted on itself in front, and again on the sides, so as to enable an assistant, standing on each side of the patient, to hold the extremities of the sheet, and to pull them gently upwards, or towards the patient's head, while a third assistant held the feet steady, and the surgeon used the taxis.

“As the gut immediately above the strangulated portion was superficial and distended with air and liquid, it was drawn upwards with considerable force from the hernial sac, which was assisted by the surgeon using the taxis; when the strangulated portion was immediately reduced.

“This simple method may, in a very large proportion of cases, be employed with perfect safety and at an early period, before inflammation and thickening has complicated and increased so much the danger of the operation, which is thus rendered unnecessary.”

ON THE NERVES OF THE ORBIT. BY JOHN STRUTHERS, ESQ.

This paper is published in the *Monthly Journal of Medical Science* for April and May 1852.

ORIGIN OF THE MOTOR NERVES. The roots of the *fourth* pair of nerves are stated by Dr. Sharpey (*Quain's Anatomy*, fifth edition, p. 747) to form a white band or commissure in the substance of the velum. MR. STRUTHERS has confirmed this observation by examinations of the brains of man and various quadrupeds. In man, he has found the fourth nerve coming by one filament from the upper part of the superior cerebellar peduncle; another comes out of the base of the testis, running backwards and outwards; and a

third, the smallest, comes from the commissure. The commissure is a line in breadth, the same distance behind the testis, and three lines across. Mr. Struthers believes that this nerve may be regarded as composed of a decussated and a non-decussated portion.

The *third* nerve has been described by Valentin as if it consisted of two distinct roots, where it issues from the crus; but Mr. Struthers does not think the inference authorised, that there are two roots physiologically distinct.

Of the apparent origin of the *sixth* nerve, he accepts the usual description.

Granting that we can trace the motor nerves of the eye to the motor tract of the medulla, it by no means follows that we have ascertained their true origin. Nor does it follow that the tracing of these nerves of the motor tracts indicates a special relation between them; for the same argument would apply to other cerebral nerves—the ninth, the portio dura, and the motor portion of the fifth.

DISTRIBUTION OF THE MOTOR NERVES, AND MOTIONS OF THE EYEBALLS. The recti muscles effect the diagonal and direct movements of the eye; and the oblique muscles, Mr. Struthers believes, perform *lateral rotation*—i.e. rotate the eye on its antero-posterior axis. This view has been especially maintained by Dr. Jacob of Dublin, MM. Longet, Jules Guérin, Huech, Helie, and more especially M. Szokalski, who has written a memoir on the subject of paralysis of the oblique muscles.

Paralysis of the fourth nerve has been noticed only by Dr. Jacob and M. Szokalski. Dr. Jacob says that the affection is difficult of detection; while he is inclined to refer to it certain cases of anomalous defects of vision, especially double vision, with great confusion of sight, and with little or no squint. M. Szokalski says that paralysis of the fourth nerve is rare as a separate condition; but he has seen it several times with paralysis, either of the third or sixth pairs. He relates two cases, from which M. Longet has derived the following symptoms of the affection. 1. The eye cannot be rotated in the orbit. We recognise that impossibility, when the patient is directed to bend his head alternately from side to side, while he keeps his eyes fixed on some object; we then see that the affected eye remains fixed, and does not follow the motions of its fellow. 2. There is constantly double vision, and the two images are placed *one above the other*; the affected eye furnishes the lower image. 3. The double vision disappears when the head is inclined to the side away from the affected eye. Mr. Struthers does not think the relation between paralysis of the superior oblique, and diplopia with one image above the other, to be sufficiently proved. Such a relative position might be due to a slight inequality in the action of the upper or lower recti muscles.

In considering the action of the muscles of the eye, the recti must be separated from the obliqui. The following table shews the movements produced by the recti muscles.

I. CORRESPONDING, OR SYMMETRICAL.

<i>Movement.</i>	<i>Muscles.</i>
1. Both eyes upwards	Both upper recti.
2. „ downwards	Both lower recti.
3. „ inwards	Both internal recti.
4. „ downwards and inwards	Both inner and both lower recti.
5. „ upwards and inwards	Both inner and upper recti.

II. NON-CORRESPONDING, OR ASYMMETRICAL.

6. Right eye out, the left in	Right external and left internal recti.
7. Right eye outwards and downwards, the left downwards and inwards	Right external and left internal, and both inferior recti.
8. Right eye upwards and outwards, the left upwards and inwards	Right external and left internal, and both superior recti.

The upper and lower recti always act with their fellows; the external never does so; and the internal does or does not, according as the movement is a corresponding or non-corresponding one.

In man and in animals which use both eyes on the same object, each oblique muscle acts with the opposite oblique muscle of the other side. With regard to those animals in which the axes of the eyes diverge, while we see the necessity of the oblique muscles to *each eye*, we can say little or nothing as to the relative action of these muscles on opposite sides.

Mr. Struthers inquires, why the external rectus and superior oblique receive each a separate nerve; and whether this, together with the distribution of the third nerve to all the other muscles, can be connected in any way with the regulation of the ocular movements? After considering various explanations given by Valentin, Müller, and P. Berard, and remarking the ways in which the branches to the different muscles of the eye act consentaneously or in opposition, Mr. Struthers observes, that "the object of these differences in the mode of employment of all these nerves and muscles is, that both eyes may be used at the same time for single vision, and to accomplish this the eyes must always move so that the axes shall converge more or less. For this purpose, then, we have suitable muscles; secondly, nerves going to each; and thirdly, these nerves are subjected to a central influence, by which these motions, otherwise voluntary, are regulated so as to establish and preserve the harmony of the ocular movements. . . . The nerves we should regard not as themselves possessed of special endowments, but merely as channels by which the nervous centres, with their special endowments, act down upon the muscles. The mere fact of the third nerve supplying the superior recti by corresponding branches, does not explain why these two muscles should always act together, because the neighbouring fibres to the levatores palpebrarum muscles are not so bound together. Again, the mere fact of the sixth nerve being a separate one, does not explain why the external rectus cannot be made to act with its fellow, from any endowment of the nerve, for that part of it which goes to the retractor muscle is not so tied up. But the reason why the nerves of the upper recti always act together, and why those of the external recti never do so, is simply, that they obey the central regulating influence; and the reason why the nerves which supply the levators of the upper eyelids may act separately, and that those from the sixth nerves to the retractor muscles in animals are not tied up from acting together, is simply, that such may be the case without interfering with the harmony of the ocular movements, by which the parallelism or convergence of the axes is preserved. Further, this regulating influence is exerted no less in the parallel than in the non-corresponding movements. We have just as little power of moving one eye up and the other down, as of making both look outwards; the harmony is the same, and the central influence guides and controls alike in both cases. We are not, therefore, to conclude that it is only when the sixth and fourth nerves, and non-corresponding muscles, are employed, that this influence is needed or exerted. Still, when we look to those movements where non-corresponding muscles are employed, we observe that on one side a separate nerve is provided for the muscle. But we see no reason why this should be so, beyond the inference we draw from noticing the fact that it is so; nor are we to suppose that this explains why one eye follows the other in an opposite movement; we merely observe the facts together, and we therefore conclude that the design contained in the provision of separate nerves, the sixth and fourth, for the external rectus and superior oblique muscles, is explained, so far as it can be, by the circumstance, that one of these nerves is used on one side, when the movements are non-corresponding or in opposite directions; and it is, in connexion with this, also remarkable, as before stated, that while the third or common nerve arises as near to its distribution as possible, the origins of these two single nerves are so remote and separate."

The common opinion, more especially maintained by Sir Charles Bell, that the eyes are turned upwards by the involuntary action of the inferior oblique muscles, in winking, during forcible expiratory efforts, in sleep, fainting, and the insensibility preceding death, is combated by Mr. Struthers. For these

motions do not always occur under the above circumstances; and, when they do, are to be attributed chiefly to the superior recti, acting sometimes with the internal, and sometimes with the external recti.

The action of the obliqui cannot be held to be as voluntary as those of the recti; for we do not seem to have the power of turning the eye on its axis when the head is fixed. Yet this is not equivalent to their being involuntary; they are subject to the central influence, and we should have no power of using them voluntarily, for the same reason that we cannot turn one eye up and the other down, or both eyes out.

With regard to the question, what relation exists, if any, between the two classes of muscles, the straight and oblique, *on the same side?* i.e., whether either oblique muscle acts more with one rectus than with another, Mr. Struthers observes that the superior oblique will be in action as often with the internal rectus, and the inferior oblique as often with the external, as with any of the other recti muscles; and it therefore does not appear that there is, in the same orbit, any special association between either of the oblique muscles and one or more of the recti.

ON THE DIET OF PRISONERS. BY DR. CHRISTISON.

This is an interesting paper, and one of importance, as bearing upon some undetermined points in the physiology of nutrition.

The experiments were made on prisoners whose terms of imprisonment varied between ten days and two months. The observations were made on 896 males, and 724 females. Each prisoner was weighed on admission, his state also noted, as to health, strength, and condition. Similar observations were made once every fortnight; and, finally, just before liberation. The observations were continued for three months, from December 2, 1850, to March 2, 1851.

The simple numerical facts amounted to about 8000 observations on the weights of prisoners, and as many on their apparent health, strength, and condition. These facts were then placed by the Boards in the hands of Drs. CHRISTISON and MACLAGAN to report upon.

DIET OF PRISONERS. This will be better understood by reference to the following table.

Place.	Nitrogenous food.	Carboniferous food.	Total.
Edinburgh	4.05	12.87	16.92
Glasgow	4.06	12.58	16.64
Aberdeen	3.98	13.03	17.01
Stirling	4.27	13.40	17.67
Ayr	4.17	13.20	17.37
Dundee	2.73	14.06	16.79
Perth	2.68	14.11	16.79
Paisley (not fully reported)	—	—	—
Carlisle	2.5	11.17	13.67
Ditto, with hard labour...	2.93	12.17	15.10

The result of this diet to the prisoners is expressed as follows:—

	Number of Prisoners.	Number per cent. whose weight was			Average No. of lbs. lost.
		Increased or maintained.	Diminished.		
Edinburgh	556	82	18		1.5
Glasgow	549	67.3	32.6		4
Aberdeen } Sterling }	143	68	32		4.2
Ayr	42	29	71		4.2
Dundee	330	50	50		5.25
Perth		46	54		3.3
Paisley		56	43.5		3.2
Carlisle					
Ditto, with hard labour }	68	13.04	86.96		6.5

From which table it appears, that less than 17oz. of food, of which 4oz. are nitrogenous material, is insufficient. The diet at Ayr and Carlisle was defective, and loss of weight resulted in consequence, and the case of Carlisle was eminently so, as no regard was had to the fact, that with hard labour came an increased demand of food to repair the waste of the body. The diet of Ayr prison, although fully equal to that of Edinburgh, Glasgow, Aberdeen, and Sterling, seems to have been insufficient from the class of the inmates, who, in the former, were agricultural labourers, muscular and bulky men, accustomed to much exercise, and a liberal supply of ordinary food.

Dr. Christison has also considered the influences of sex, the bulk of prisoners, and age. Thus, of those that lost weight, there were in

Edinburgh	26·3 per cent.	males. ...	10 per cent.	females.
Glasgow	41	"	21	"
Aberdeen	38·2	"	30	"

Showing that males suffer in this respect more than females.

2. THE BULK OF PRISONERS. Of those who lost weight, there were in

	Of those who weighed less than 150 lbs.		Of those who weighed at least 150 lbs.
Edinburgh	23·3 per cent.	.....	36·5
Glasgow	38·7	"	53
Aberdeen	30	"	60

From which it appears that stout men suffer most under prison discipline.

3. AGE. Out of 100 each age, those who lost weight amounted to—

	From 16—20.		Above 20.
In Edinburgh	31·2	.....	24·3
Glasgow	53·4	.....	36·2

The results for Aberdeen were made with too few instances to be of any value. The above numbers, however, show, as was to be expected, that growing lads suffer more under prison discipline than full grown persons.

The conclusions arrived at by Drs. Christison and MacLagan may be briefly enunciated as follows.

1. For the average class of persons, and those accustomed to moderate exercise, 17 oz. of food daily is required, of which 4oz. should be nitrogenous. This will suffice to maintain health, strength, and weight.

2. The proportion of nitrogenous ingredient cannot be sensibly diminished without risk of injury.

3. The amount stated as sufficient, may require to be increased under peculiar circumstances.

4. It is probably inadequate for those accustomed to a vigorous occupation in the open air and a liberal dietary, even when their employment is changed for one not involving great muscular efforts.

5. It is inadequate for a fair proportion of persons, exceeding the average bulk in size.

6. Also for growing lads between 16 and 20.

7. It is more generally adequate for females than males.

8. It is rendered occasionally inadequate by other causes, not distinctly indicated by the observations in Scottish prisons, but certainly independent of increased muscular exertion.

9. Hence the economical regulations of the diet of bodies of men must be always a matter of great difficulty; and if deviations of the standard dietary be not allowed with a liberal discretion, injury will be apt to ensue.

10. The prison dietary of Scotland will answer the purpose for persons confined for periods of time under two months, but in that dietary treacle-water cannot be substituted for milk without a reduction of flesh,—the forerunner of probable ill health,—without due compensation by other articles of food.

11. In adjusting dietaries, and in all practical inquiries on the subject, reliance ought never to be put in particular observations alone, but scientific analysis should be likewise brought into requisition.

Our limits prevent us from commenting at length upon this valuable paper of Dr. Christison, the importance of which will be apparent to our readers from the above abstract. We may remark, however, that the author appears to have neglected some circumstances which, if investigated, might have thrown light upon the obscurer parts of his subject. Like many others, he has omitted to notice the hydrogenous materials, confining himself to the carbonaceous. He has totally disregarded the *mineral ingredients*, and the *influence of temperature*, both as regards climate and the fires which are kept in the prisons. An examination of the facts connected with these branches of the inquiry might probably explain the unfortunate position of some of the prisons. Dr. Christison tells us, that persons who have been accustomed to strong exercise, when put upon less severe employment, will grow thin. Can this be so? We think not: and we are inclined to explain the fact—the growing thin—in the cases referred to, by recognising in them the operation of other agencies. It has been proved by experiment, that animals kept in a state of comparative repose deposit fat: and, therefore, in cases which are apparently exceptional, we obviously require explicit information as to the degree of confinement, and the extent to which there was privation of atmospheric air.

ON GUARANÁ. BY D. RITCHIE, ESQ.

Guaraná is a substance used in Brazil as a medicine. It is prepared from the seeds of the *paullinia sorbilis*, a sapindaceous plant. The masses of which it consists are cylindrical or spherical, hard, uneven, brown or black on the surface; fracture conchoidal, unequal, resinoid; colour reddish brown, like chocolate. It is liable to be adulterated with cocoa or mandioca flour. Chemical analysis shows the presence of tannin, caffeine, and guaranine.

The medicinal properties have been examined by M. Theodore Martius, and more particularly by Dr. Gavrelle, who was physician to Don Pedro in Brazil. By the vulgar it is held to be stomachic, antifebrile, and aphrodisiac; it is used in dysentery, diarrhoea, retention of urine, and various other affections. It stimulates, and at the same time soothes, the gastric plexus of nerves. It reduces the excited sensibility of the celiac plexus, thereby diminishing febrile action, and strengthening the stomach and intestines, particularly restraining excessive mucous discharges, increasing the action of the heart and arteries, and promoting diaphoresis. It is therefore indicated in fever, or reduced vital power from cold or prolonged wet, grief, too great muscular exertion, depression of spirits, long watching, and also in colic, flatulence, anorexia, nervous hemicrania, or in a dry condition of the skin. It is contra-indicated in a plethoric or loaded condition of the abdominal viscera, and in determination of blood to the head. It is said to increase the venereal appetite, but to diminish the fecundating power. It is a valuable remedy in irritation of the urethra and bladder, succeeding venereal, or attending organic disease.

Guaraná, in the state of powder, is given in doses of ʒj three or four times daily, with water and sugar, or with syrup and mucilage, conjoined with an aromatic. A convenient form is the extract, made by treating guaraná with alcohol; it may be exhibited in the form of solution or pills.

L'UNION MEDICALE.

JANUARY, FEBRUARY, MARCH, AND APRIL 1852.

1. ON TYPHOID FEVER IN DAMASCUS, AND ITS TREATMENT BY CALOMEL. By DR. LATOUR. January 3, 6, 8, and 10.
2. ON THE POPULATION OF FRANCE, IN RELATION TO THE LONGITUDES. By DR. E. CARRIÈRE. January 6, 20.
3. ON FORCIBLE DILATATION IN THE TREATMENT OF CONTRACTION OF THE SPHINCTER ANI. By DR. LE PELLETIER. January 8.
4. PUBLIC BATHS AND WASH-HOUSES. By DR. E. CARRIÈRE. January 10.
5. ON THE INSTITUTION OF SANITARY COMMISSIONS IN THE ARRONDISSEMENTS OF PARIS. By DR. E. CARRIÈRE. January 13.
6. ON THE INDICATIONS OF PHTHISIS IN YOUNG CHILDREN. By DR. N. GUILLOT. January 13.
7. ON A NEW METHOD OF TREATMENT OF CICATRICES AFTER BURNS. By DR. LERICHE. January 15.
- 8.*ON THE RETURN OF THE LACTEAL SECRETION AFTER PROLONGED WEANING. By DR. A. GUBLER. January 17.
9. ON THE TREATMENT OF ASPHYXIA AND CONGENITAL DEBILITY IN NEW-BORN CHILDREN. By DR. A. MARCHANT. January 20, 22.
10. CASE OF CANCER OF THE UPPER EYELID: WITH ECTROPION. By M. JOBERT DE LAMBALE. January 20.
11. ON THE APPARENT PATHOLOGICAL RELATIONS BETWEEN ACUTE MANIA AND INTERMITTENT FEVER. By DR. E. CAZENAVE. January 20.
12. ON SOME DIFFICULTIES IN THE DIAGNOSIS OF CERTAIN FORMS OF TYPHOID FEVER, ESPECIALLY THE SO-CALLED PECTORAL FORM. By DR. H. THIRIAL. January 24, 27, 29, March 2, 6, 9.
13. CASE OF COLD ABSCESS OF THE THIGH: Injection of Tincture of Iodine. By M. JOBERT DE LAMBALE. January 31.
14. ON NURSING AND NURSES. By DR. N. GUILLOT. February 5, 7.
15. ON THE STRUCTURE OF THE LIVER. By DR. D. LAMBRON. February 5.
- 16.*ON CERTAIN POINTS IN THE PATHOLOGICAL CONDITION OF THE SPLEEN IN THE INTERMITTENT FEVERS OF MADAGASCAR. By DR. ROCHARD. February 10.
17. ON THE SURGICAL DIAGNOSIS OF TUMOURS. By DR. FORGET. Feb. 14.
18. ON IDIOPATHIC ABDOMINAL PULSATIONS. By DR. MACARIO and DR. SANDRAS. February 17. By DR. LIÈGEY. March 27.
19. NECROSIS OF THE TIBIA FROM A GUN-SHOT WOUND: Removal of a Sequestrum by Trephining. By M. JOBERT DE LAMBALE. Feb. 17.
20. CLINICAL LECTURES DELIVERED AT THE HÔPITAL DE LA Pitié. By M. VALLEIX. Introductory Lecture, February 19, 21; Peritonitis extending from an Inflamed Uterus, March 13; Progressive Muscular Atrophy, March 16th; Pulmonary Tubercles, with Intestinal Ulceration, Peritonitis, and Pulmonary Apoplexy, April 8; Gangrenous Erysipelas, April 13.
- 21.*ON THE TIME WHEN LACTATION CAN BE RESUMED AFTER ITS INTERRUPTION. By DR. DUFAY. February 19.
22. ON THE DIAGNOSIS OF TYPHOID FEVER. By Professor FORGET. Feb. 24.
23. ON CROUP AND TRACHEOTOMY. By M. GUERSANT. February 26, 28.
- 24.*ON DIPHTHERITIS OF THE GLANS IN SOME CASES OF PARALYSIS. By DR. HÉRARD. March 4.
- 25.*CASE OF OBSTINATE INTERMITTENT CORYZA, arrested instantaneously by a Sinapism. By DR. A. MENUDIER. March 6.
26. ON THE DISTINGUISHING CHARACTERISTICS OF DISEASED AND MORAL PERVERSION. By DR. MICHÉA. March 9, 11, 13.
- 27.*THREE CASES (TWO SUCCESSFUL) OF PARACENTESIS THORACIS FOR EFFUSION INTO THE PLEURA. By DR. J. BEYRAN. March 16.

- 28.*ON ABDOMINAL TUMOURS DURING PREGNANCY. By DR. MORISSEAU. Mar. 16.
- 29.*CASE OF CROUP IN AN ADULT. By Professor BOUILLAUD. March 20.
30. ON POISONING WITH CIDER ADULTERATED WITH LEAD. By DR. FAUCONNEAU-DUFRESNE. March 23.
31. ON THE MALE AND FEMALE ACARI SCABIEI. By DR. H. BOURGUIGNON. March 23, 25, 27.
- 32.*CASE OF SPASMODIC CONSTRICTION OF THE ŒSOPHAGUS. By DR. B. PALAIS. March 23.
33. ON THE TREATMENT OF TENIA BY A PASTE MADE OF PUMPKIN SEEDS. March 27.
- 34.*TUBERCULOUS DISEASE OF THE GENITO-URINARY APPARATUS, AND OF OTHER PARTS OF THE BODY. By DR. C. TEIRLINCK. March 30, April 3.
35. MAY NOT SYPHILIS BE TRANSMITTED OTHERWISE THAN BY THE PRIMARY EFFECTS? By DR. J. VENOT. April 6, 8.
- 36.*LETTER TO M. THIRIAL ON THE DIAGNOSIS OF TYPHOID FEVER. By DR. GOUDOT. April 6.
37. RESEARCHES ON CHLORINATED HYDROCHLORIC ETHER. By DR. R. CUCUEL. April 10.
38. REFLECTIONS ON THE ACCIDENTS WHICH SOMETIMES FOLLOW THE INHALATION OF CHLOROFORM. By M. COTTEREAU. April 10.
- 39.*ON SUDDEN DEATH AFTER DELIVERY. By DR. A. FORGET. April 13.
40. PRACTICAL OBSERVATIONS ON THE HYPOGASTRIC BAND OF M. CHARBONNIER. By M. G. RICHELET. April 13.
41. WOUNDS OF THE HEAD: Incomplete Paralysis of the Right Side, with Permanent Contraction of the Fingers of the Right Hand. By DR. LAFORGUE. April 15.
- 42.*ON THE ACTION OF CHLOROFORM. By M. HERVEZ DE CHÉGOIN. April 17.
43. CASE OF SEVERE FEVER, WITH FORMATION OF PUS IN SEVERAL JOINTS. Case of Apoplectic Clot in the floor of the lateral ventricle of the Brain; softening of the surrounding tissue: Meningitis of the ventricles: Death. Case of Pulmonary Phthisis, with albuminous nephritis; ulceration of the intestines: fatal sub-acute peritonitis, without perforation of the intestine. (Occurring at La Pitié, in the practice of M. Clement.) By DR. ARAN. April 17.
44. ON THE TREATMENT OF SCIATICA BY IODIDE OF POTASSIUM. By DR. IZARIÉ. April 17.
45. ANATOMISM AND VITALISM: a Letter on the Cholera. By M. L. C. ROCHE. April 20.
46. ON TYPHOID FEVER IN DAMASCUS. By DR. A. WILLEMIN. April 20.
47. ON THE HEREDITARY PREDISPOSITION TO CEREBRAL AFFECTIONS. By DR. MOREAU. April 22.
48. ON THE UTILITY OF REMOVING THE LARYNGEAL MUCCOUS EXUDATIONS IN THE BRONCHITIS OF YOUNG CHILDREN. By M. VALLEIX. April 22.
49. LECTURES DELIVERED IN THE COLLEGE OF FRANCE. By M. MAGENDIE. Collected and analysed by M. FAUCONNEAU-DUFRESNE. ON THE COAGULATION OF THE BLOOD. April 24.
50. INVERSION OF THE UTERUS: Ligature and Removal of the Organ. By DR. DEROUBAIX. April 27.
- 51.*CLINICAL REMARKS ON LARYNGO-BRONCHIAL DIPHTHERITIS, OR CROUP, IN THE ADULT. By DR. BONNET. April 29.

ON THE RETURN OF THE LACTEAL SECRETION AFTER LONG WEANING. BY M. GUBLER.

ON THE PERIOD WHEN LACTATION CAN BE RESUMED AFTER ITS INTERRUPTION. BY DR. DUFAY.

In the *Union Médicale* for January 17th, M. GUBLER refers to some cases which tend to shew that, after a female has ceased to suckle her child for some time, the lacteal secretion will often be reproduced, on applying the

child again to the breast. The longest period which has come under his observation is four months ; but he does not at all assign this as the limit.

Dr. DUFAY, referring to M. Gubler's observations, brings forward Dr. Tyler Smith's theory of genesial cycles in explanation of the fact. He believes that the flow of milk may be produced, on the application of the proper stimulus, at any time within the cycle of lactation. The question is one of practical interest, both as regards the child and the mother.

SOME FACTS IN PATHOLOGICAL ANATOMY REGARDING THE STATE
OF THE SPLEEN IN THE INTERMITTENT FEVER OF
MADAGASCAR. BY DR. ROCHARD.

DR. ROCHARD had an opportunity of observing a large number of severe cases of intermittent fever in Madagascar, in 1830. He gives the following particulars regarding the state of the spleen.

In 153 carefully performed necropsies, he found the spleen diminished in 31 cases ; in 22 of these, the patient had not taken the smallest quantity of sulphate of quinine. In the remaining 9, there was nothing abnormal in the state of the spleen, before quinine was given. In 122 patients who took sulphate of quinine in average and daily doses of a gramme ($15\frac{1}{2}$ grains) for several days, the spleen always became greatly enlarged : and the same happened with some who had taken no quinine. The enlarged and softened organ exhaled an odour resembling that proceeding from the marshes.

From his observations, Dr. Rochard concludes that—1. The spleen is not the starting point of intermittent fevers.¹ Like all internal organs, it may be congested : and very often its volume, instead of being enlarged, is notably diminished.

2. The frequent increase in size of the spleen is due to its spongy tissue permitting it to become more gorged with blood, under the influence of febrile congestion.

3. Sulphate of quinine does not always diminish the size of a congested spleen.

4. The individual varieties which the size of the spleen presents in man or in animals, in health or in disease, prevents us from appreciating in an exact manner the influence of sulphate of quinine or chloride of sodium in diminishing its volume.

5. Antiperiodic remedies arrest the febrile attacks, not by diminishing the size of the spleen, but by modifying, in a special manner, the economy in general. This modification brings about a state of reactionary equilibrium, under which the miasmatic influence is eliminated from the body.

ON DIPHTHERITIS OF THE GLANS IN SOME CASES OF PARALYSIS.
BY DR. HÉRARD.

In two persons, who had been the subjects of cerebral hæmorrhage followed by hemiplegia, Dr. HÉRARD found a morbid exudation at the extremity of the glans, round the urinary meatus. In both cases, there was incontinence of fæces and urine ; and the attention of Dr. Hérard was directed to the glans by the patient complaining of pain at the extremity of the penis. The exudation was removed by careful cleansing, and the use of acid nitrate of mercury.

Dr. Hérard thinks that the origin of the diphtheritic eruption is sufficiently explained, by the penis having been constantly plunged in a metallic vessel containing decomposed urine, and being thus exposed to the emanations therefrom.

¹ It will be remembered that, in France, the splenic origin of intermittent fever is strongly advocated by M. Piorry.

OBSTINATE INTERMITTENT CORYZA—INSTANTANEOUS CURE.

BY DR. A. MENUDIER.

A lady, aged 24, had been for some years subject to severe attacks of coryza, coming on twice or three times in a week, and lasting from twelve to thirty-six hours. On one occasion, she was anxious to have the disease arrested immediately. M. MENUDIER thereupon applied a sinapism from the scapulæ to the loins: in a quarter of an hour, the coryza began to diminish; and in three quarters of an hour, the patient could no longer bear the mustard. The skin was reddened; but the coryza was cured: and had not returned at the end of three months.

THREE CASES OF PARACENTESIS THORACIS IN PLEURISY; TWO OF WHICH WERE SUCCESSFUL. BY DR. JOSEPH BEYRAN.

DR. BEYRAN is in favour of puncturing the thorax at a comparatively early period in pleurisy. He sometimes employs a trocar, sometimes a bistoury; the latter plan he prefers when the subject is fat or muscular. The three cases to be related occurred in Constantinople; two of them in a hospital there, to which Dr. Beyran is attached.

CASE I. Margos, aged 28, a sawyer, exposed to alternations of heat and cold, was seized with pleurisy on February 3rd, 1851. On the 9th, he was admitted into hospital, with signs of effusion in the right pleural sac. On the 11th, the respiration becoming more and more impeded, Dr. Beyran punctured the thorax between the seventh and eighth ribs, by means of the trocar of M. Reybard. Six and a half pints of transparent serous fluid escaped. A piece of diachylon plaster and a bandage were applied. After the operation, he gradually recovered; and was discharged cured on February 26th; and has since remained well.

CASE II. Serpoulic, aged 32, a washerwoman, had been ailing for some days, with a pain in the left side of the chest, when she accidentally burnt her legs, on April 13th, and was brought to the hospital. The next day, the most urgent symptoms were those of extensive effusion into the left pleura. Blisters and diuretics were used, without effect. On the 16th, as the patient was threatened with suffocation, Dr. Beyran punctured the thorax. The patient being fat, an incision was made first down to the ribs, until fluctuation was distinctly felt with the finger; the bistoury was then introduced, and five pints of yellow transparent fluid were removed. The flow was then suddenly arrested to prevent the access of air; plasters, graduated compresses, and a bandage were applied. In half an hour, the stroke-sound was normal, except at the lower part; and the respiratory murmur could be heard. The patient was calm. The next day she was much better; and on August 18, she left the hospital, completely recovered.

CASE III. Dr. Beyran was called in consultation in the case of Mlle. M. Narisen, who was seized, on December 2, with pleurisy of the right side. He saw her on the 12th, when he diagnosed effusion into the right pleural sac. The patient also had tenderness in the hypochondria and epigastrium, with nausea and vomiting. Dr. Beyran recommended paracentesis; but could not prevail on the other medical attendants to have it performed until several days after. It was then performed, when suffocation was imminent, by puncture with a bistoury. The patient appeared relieved for a time; but died exhausted in eight hours after the operation. Before her death, she complained of much pain in the region of the stomach.

ON ABDOMINAL TUMOURS DURING PREGNANCY. BY DR. MORISSEAU.

On two occasions, Dr. MORISSEAU writes, I have had an opportunity of observing the result of abdominal tumours during pregnancy. More recent facts have awakened my recollection, and fixed my attention.

A woman, aged 28, married for eight months, had become pregnant four months after marriage. For several years she had had a swelling on the right side of the abdomen. It was painless and moveable, offering no impediment to the functions of the abdomen; but it now became adherent and painful. In the seventh month, the woman died of marasmus. For a month before her death, she had had purulent alvine evacuations; but the size of the tumour appeared very slightly diminished. The tumour was found to be filled with pus, to be adherent to the mesentery, and to have an opening into the ascending colon. The foetus was in a state of putrefaction.

A woman, aged 30, who had had two children, became pregnant for the third time. After the second pregnancy, she had what she described as a ball in her abdomen. This tumour went on growing with the product of conception; and, in the fifth month, became so painful as to render motion insupportable. After suffering extremely for four months, in a state of marasmus, she was delivered of a small, living, skeleton-like child. Both mother and infant died a few hours after. Towards the eighth month of pregnancy, I perceived a tumour of the size of the head of a foetus at full term, seated in the right flank, and distinct from the uterine tumour. At the autopsy, the peritoneum was found to contain a large quantity of sero-purulent fluid, with albuminous flocculi floating in it. The small intestines were mottled and friable. Above the right ovary, the tumour raised the intestines, and was adherent to them by the whole of its anterior surface. It was divided into cells, which, for the most part, did not communicate, and was filled with a large quantity of very fetid greenish pus. The base was at the mesentery. The uterus appeared healthy.

Some time ago I was consulted in the case of a woman, aged 24 or 25 years, who had been married some months, to determine whether she could, without danger, become pregnant. She had for some years had an enlargement in the abdomen. The tumour was of the size of a large orange, painless, and could easily be moved from the right side, its ordinary position, to the left. I expressed my opinion that pregnancy would be attended with severe accidents; but different advice was given by another *confrère*, and the patient became pregnant. A month after conception, the tumour became painful, and larger. Towards the end of the second month, the patient was obliged to remain in bed; not the least pressure could be borne; obstinate vomiting and colic set in; and, for ten days, the patient was in a most precarious state. On the seventieth day of pregnancy she expelled the foetus. For a month she remained dangerously ill, but at length became slowly convalescent, the tumour remaining large and tender.

These facts are worthy of attention. Pregnancy necessitates increased activity of circulation in the uterus and in the neighbouring parts. When the uterus is developed, it impedes the flow of blood, as is proved by oedema, and varices in the lower extremities. In the abdomen, too, there is a plethoric state of the organs; hence, if a ganglion is already hypertrophied, or there be a tumour of any kind in the abdominal cavity, it will be liable to become enlarged.

Is it, then, prudent to advise marriage to a female who has a tumour in the abdomen? I have not hesitated, and would not hesitate, to reply in the negative.

CASE OF PSEUDO-MEMBRANOUS LARYNGO-BRONCHITIS, OR CROUP,
IN AN ADULT. BY M. BOUILLAUD.

CLINICAL REMARKS ON LARYNGO-BRONCHIAL DIPHTHERITIS, OR
CROUP, IN ADULTS. BY DR. BONNET.

The subject of M. BOUILLAUD's case was a pregnant female, aged 33, of impaired constitution, who was seized, on the 4th February, with symptoms of inflammation of the larynx and bronchi. On the 10th, she miscarried, and

soon after died exhausted. A *post-mortem* examination disclosed signs of inflammation in the air-passages, in which were found also a quantity of false membrane. During her illness she had coughed up some casts of the trachea and bronchi; and M. Bouillaud thinks that death was rather due to the exhaustion produced by the miscarriage.

Dr. BONNET relates two cases, also occurring in pregnant females. One of them died; the other recovered, and subsequently gave birth to a living infant. He does not think that diphtheritic exudation is always connected with inflammation. The only rational treatment is by emetics, which act, first, by causing mechanical expulsion; and secondly, by augmenting the secretion of the air-tubes, so as to favour the softening and removal of the false membrane. Their production of diaphoresis is also valuable. In cases of imminent danger, Dr. Bonnet would perform tracheotomy.

CASE OF SPASMODIC CONSTRICTION OF THE OESOPHAGUS.

BY DR. B. PALAIS.

The patient was a young man, aged 21, who had intermittent fever. Dr. PALAIS was called to him, in the hospital at Montmorail, on December 22, 1851, where he found him in the following condition.

The skin was in general cold; there was trembling of the whole body; the pulse was 60; the jaws were contracted; deglutition was impossible, and liquids produced severe pain in the pharynx, and caused painful efforts to swallow, which congested the face; there was difficulty in protruding the tongue; the front of the neck was tender, and the movements of this part were impaired, while the limbs and back could be bent; the urine was scanty; the patient tossed himself about in bed; he understood questions, but could only answer them imperfectly. Sinapisms were applied several times to the lower limbs; warmth was applied to the body; and ether mixture was given; and the patient was bled from the arm.

December 23. The same state continuing, the bleeding was repeated.

December 25. The patient was calm; he could swallow a little, but with difficulty, so that it seemed as if the fluids were passing through a filter. The pulse was 72; the skin was regaining its normal heat. He complained of pain at the upper part of the sternum, and also between the lower ribs on the left side. Nothing abnormal was detected in the thorax by auscultation.

December 28. The dysphagia had gradually ceased; and there now appeared slight attacks of ague, which continued till the 31st, and then yielded to sulphate of quinine.

TUBERCULAR DISEASE OF THE GENITO-URINARY ORGANS, AND OTHER PARTS OF THE BODY. BY DR. C. TEIRLINCK.

M. Malgaigne having, some time ago, in an essay read before the Académie Nationale de Médecine, proposed the removal of the testicles in cases of tubercular disease of these organs, Dr. TEIRLINCK relates the following case, with the view of showing that such cases are not to be regarded as examples of an isolated affection, but as manifesting a disease of the system in general. The following is an abridgment of the case.

CASE. H. L. V. H., aged 32, was admitted into the hospital at Ghent, on October 24, 1848, apparently labouring under gonorrhœal epididymitis. Bleeding, salines, poultices, and Vigo's plaster, were used; and the patient was discharged on the 29th December, with a slight induration of the epididymis. On March 14, 1849, he was again admitted, with symptoms of inflammation of the prostate, which were soon relieved by the use of antiphlogistic remedies.

The left testicle had remained slightly indurated, while the right had not suffered; this, however, became hard, uneven, slightly painful, and the skin partially red. An abscess formed, from which, on an opening being made,

was discharged some greenish-yellow grumous pus. On examining the abscess, there was found to be a true tubercular excavation in the epididymis. On examining the patient more carefully, with regard to the history of the disease, Dr. TEIRLINCK became convinced that the disease for which he was first admitted, had been tubercular, not blennorrhagic. The prostate was now detected to be indurated and knotty in parts. The emission of urine, which had been difficult, now became impossible; and an œdematous engorgement manifested itself in the perinæum, in front of the anus. On introducing the finger into the rectum, there was found to be softening in the prostate. The swelling in the perinæum burst in two days; and a large quantity of grumous, cheesy pus escaped. The next day, the patient passed urine through the perineal opening. Under proper treatment, the patient, after some time, began to regain a little of his flesh and strength, of which he had lost much, when a fluctuating tumour appeared in the fold of the right groin, above Poupart's ligament. It was opened with a lancet, and gave exit to a large quantity of consistent but greenish pus, which was proved, by means of a probe, to come from the bottom of the right iliac fossa. Two days after, urine was seen to escape by this opening. The patient, in the mean time, was able to take sufficient food to compensate, in some measure, for the loss through the fistulous openings, when he was seized with diarrhœa, having ten or twelve liquid stools a day. An examination of the evacuations, made after some days, showed that this was not a colliquative diarrhœa, but that a recto-vesical fistulous opening had been formed, and that the constant contact of the urine produced the irritation and consequent diarrhœa. From this time, emaciation made rapid progress; and there now appeared infiltration of the lower limbs, loss of appetite, night sweats, and hectic; and a fistulous opening, similar to that on the right side, was formed in the left groin. After lingering some time in this state, the patient died.

Post-mortem examination. There was extreme emaciation. The abdomen was much distended, and the legs were swollen to double the natural size. There was a large ulcer on the sacrum; and the skin of the perinæum and right side of the scrotum was gangrenous.

Testicles. The right testicle was denuded of its covering; it appeared as a blackish, fungous, shapeless mass. The place of the epididymis was occupied by fungosities, from which exuded sanious pus. The vas deferens was indurated, and obliterated as far as the inguinal canal. On the left side, the skin of the scrotum remained; but there was a small opening near the raphe, leading down to a larger aperture in the tunica albuginea. The epididymis had disappeared, and a shapeless mass of fungous vegetations appeared in its place.

The right testicle presented several collections of pus, with some crude tubercles; the seminal vessels had almost entirely disappeared. The left testicle was less diseased, but contained numerous tubercles,—some crude, others softened; it still possessed some seminal tubes.

Abdomen. On each side, above the crural arch, was a fistulous opening of the size of a two-franc piece. On opening the abdomen, a considerable quantity of yellow serosity escaped. The peritoneum, especially about the bladder and spleen, and the mesentery and large omentum, were scattered with hard, grey, and crude tubercular granulations. The mesenteric glands also contained many tubercles, none of which had softened. The external surface of the intestines was also covered with these small tubercular masses; and in the interior, from the duodenum to the rectum, there were found, from point to point, a number of small hard tubercular masses. There was no ulceration. The stomach, liver, and spleen, appeared healthy.

Genito-urinary organs. From the openings on each side above Poupart's ligament, there proceeded fistulous tracts, which ran obliquely across the abdominal wall into a canal hollowed in the sub-peritoneal cellular tissue, and passing from above downwards along the sides of the bladder. The canal

on the right side opened into the fundus of the bladder, a little above the orifice of the ureter. The canal on the left side descended between the upper lateral part of the bladder, and the sigmoid flexure of the colon; the latter appearing to partly form its wall. The canal now directed itself towards the lateral and posterior part of the rectum, into which it opened; it then ran along the side of the pelvis and the fundus of the bladder, and ended in a vast cavern, hollowed out in the situation of the prostate, of which the only remaining traces were some *débris* floating in a mixture of urine and grumous pus. This cavern communicated outwards, as has been just described; with the bladder, by an aperture in the fundus immediately behind the neck; and with the rectum, by a tortuous canal which passed backwards and upwards in the cellular tissue between the bladder and rectum, and opened into the latter organ just above the sphincter, by an opening of the size of a quill; it also opened into the urethra by an irregular canal at the side of the verumontanum. In the midst of these disorders, the lower wall of the urethra, in the prostatic region, remained almost entire, though reduced to the mucous membrane. Not the least trace of vesiculæ seminales could be found. The interior of all these fistulous tracts was blackish or violet coloured.

The ureters were healthy in their whole extent.

Kidneys. The right kidney was healthy, as was also the lower half of the left kidney, with the cortical substance and capsule. In the upper half of this organ, the tubular substance had almost entirely disappeared, its place being occupied by numerous tubercles, some softened, some crude.

Lungs. There was a mass of grey or yellowish tubercular granulations in the mucous membrane of the trachea, but none in the bronchi or bronchial glands. Both pleuræ were adherent at their apices, and were covered with an innumerable number of small tubercles, collected into groups, between which the tissue appeared healthy. The lungs were healthy in the greatest part of their extent; but near the summit of each was an incysted mass of tubercle, about the size of a large nut, which had undergone cretaceous transformation; the mass in the right lung was also surrounded by some crude tubercles.

The *brain* and its connexions presented nothing remarkable.

Dr. Teirlinck thinks that this case tends to prove:—

1. That tubercle of the testicle, as in all other organs, is not a local disease, but the result of a diathesis.
2. That the law established by M. Louis, that the lungs partake of tuberculation in common with other organs, is also applicable to the testicles.
3. That tubercle of the testicles, whether of one or of both, is always one and the same thing, the effect of a general disease, and always subject to the same law of common participation (*solidarité*).
4. That any operation for resection of the testicle, (in such cases,) is illogical and contrary to reason.
5. That the treatment of tubercle of the testicles ought to be derived from medicine, not from surgery.

ON THE DIAGNOSIS OF TYPHOID FEVER. BY DR. GOUDOT.

M. Thivial having published in the *Union Médicale* an interesting article on the diagnosis of typhoid fever, in which he points out that that affection sometimes simulates, or is simulated by, pulmonary phthisis, Dr. Goudot suggests that, in some cases, tubercle may be called into action during the course of typhoid fever. He relates a case which occurred in the practice of M. Louis, in support of this view. The following remarks are quoted as having been made by M. Louis in his clinical lecture on the case.

"Tubercles are sometimes developed in the course of a typhoid fever; and then the intensity of the fever is increased. The present case is probably one of this kind...If, during typhoid fever, there appears any pulmonic com-

plication, this is commonly manifested by a subcrepitant rhonchus, about the tenth day of the disease. This is quite different from the sibilant rhonchus, which frequently exists in the fever. Typhoid fever is a disease in which the pyrexia is long and intense; hence it is not rare to see tubercles developed in its course; their progress is then acute. I have never seen typhoid fever develop itself in the course of a chronic disease."

ON SUDDEN DEATH AFTER DELIVERY. BY DR. A. FORGET.

DR. FORGET observes, that sudden deaths after delivery ought to be arranged in two categories: 1, Those which occur some minutes or hours after delivery; 2. Those which occur after some days or even weeks, under circumstances which would not lead one to expect the fatal event.

Of the latter kind are three cases related by M. Robert at the meeting of the *Société de Chirurgie* on January 7th, 1852. In one of these, the woman died on the ninth day after delivery; the other two died on the sixteenth day. Dr. Villeneuve, of Dijon, has related the following case in a letter to Dr. Forget.

A young woman, aged 22, primipara, of strong constitution, had a natural delivery after a labour of forty-eight hours. She was seized on the sixth day with febrile symptoms, which continued till the fifteenth or sixteenth day; after which, she appeared to be recovering, until the twenty-sixth day, when she was seized during sleep with a convulsion which caused her to start from her pillow, on which she fell back dead. The following fact is worthy of attention. The pulse of this patient, in general regular, would from time to time cease, and would then suddenly become extremely irregular, the heart exhibiting convulsive, tumultuous, disordered action. This state would recur several times in the day, lasting from half a minute to a minute and a half, and disappearing without leaving any trace. On a single occasion, this phenomenon was observed to be coincident with a slight mental impression, produced by some cries of her infant. No organic lesion in the thorax or abdomen could be detected either by percussion or by auscultation.

With regard to the cause of death under such circumstances, M. Danyau observed at the meeting of the *Société de Chirurgie* above referred to, "that death occurs always in the same manner—rapidly and unexpectedly; and that the lesions appear as yet to have escaped the investigations of pathologists." In two cases which he has recorded, there was a little serum in the pericardium in one; in the other, there was slight fatty degeneration of the heart. Dr. Forget observes, that neither of these conditions will sufficiently explain the cases.

In deaths occurring a few minutes after labour, there are generally some premonitory symptoms, which reveal the threatened recurrence to the experienced practitioner. Thus M. Depaul has communicated the following case to the Medical Society of Emulation.

A young woman, who had had slight hæmorrhage at the sixth month, was favourably delivered at the full period. A certain quantity of blood was lost, but not enough to constitute what might be called hæmorrhage. The patient went on well for about an hour, the uterus appearing to contract properly, and there being no reason for suspecting internal hæmorrhage. She was then seized with paroxysms of severe pain in the hypogastrium, each paroxysm being followed by slight convulsions; at the same time, the extremities and the whole surface became cold. M. Depaul, who had already seen a case of death under similar circumstances, sent for the usual medical attendant of the patient, and communicated to him his apprehensions; the latter, however, looked on the symptoms as being merely nervous, and capable of being overcome by antispasmodics. The paroxysms ceased; prostration soon set in; the pulse rapidly failed, and the patient died.

An analogous case is recorded by M. Sandras.

A young woman was favourably delivered of a living infant. Two hours

and a half after delivery, she began to complain of an indescribable feeling of anxiety, with gradual and rapid prostration. No cause for this could be discovered; there was no internal hæmorrhage, and the uterus seemed properly contracted. In spite of all remedies, the prostration became extreme, the pulse failed, the surface became cold, and the patient died.

Dr. Forget observes that, in the absence of any direct anatomical investigation of the two preceding cases, the cause of death can be only surmised. He has no doubt that the introduction of air into the uterine veins is the most plausible explanation; and he regards as inconclusive the objections to this theory, founded on the flexuosities of the vessels, and the approximation of their walls by the contractions of the uterus.

ON THE ACTION OF CHLOROFORM. BY M. HERVEZ DE CH GOIN.

M. HERVEZ DE CHÉGOIN thinks it probably that chloroform may in some cases exert a deleterious influence on the organs, short of death; and he relates a case of amputation of the thigh, in which anæsthesia was produced, and in which both the mucous membrane and the divided surfaces of the muscles presented a blue appearance. The bone became denuded of periosteum, the suppuration became unhealthy, and the patient died. He would not, however, give up the use of chloroform; but would employ it until the patients manifest a desire to remove themselves from its influence, pushing it away with the hand, at the same time that they have a noise in the ears, and they feel a pinch but obtusely. He has operated on several occasions under these circumstances, the patients not being aware of the operation.

GLEANINGS FROM JOURNALS DEVOTED TO CHEMISTRY AND PHARMACY.

We propose, in accordance with our general plan, to give a Digest, from time to time, of whatever may appear in the various Chemical and Pharmaceutical Journals, directly bearing on the practice of medicine; departing, in this instance, from our special arrangement of noticing *all* the papers, inasmuch as the majority of the communications which are published in the serials devoted to chemical and pharmaceutical subjects, have no direct bearing on medical science.

THE STATE IN WHICH OXYGEN EXISTS IN THE BLOOD.

LIEBIG, in the *Chemisch-Pharmaceutisches Central-Blatt*, Dec. 1851, has published a memoir on this subject, in which he combats the opinion that oxygen is not chemically combined with, but is simply absorbed by, the blood; a belief grounded on the fact of the expulsion of the absorbed oxygen by a current of carbonic acid passing through the liquid. The author denies the correctness of this inference, on the following grounds: 1000 volumes of water, according to Gay-Lussac, when saturated with atmospheric air, absorb 9.25 volumes of oxygen, and 18.5 volumes of nitrogen; whilst, according to Magnus, 1000 volumes of blood absorb from 100 to 130 volumes of oxygen, and 17 to 33 volumes of nitrogen: therefore blood absorbs from eleven to fourteen times more oxygen than water does, which absorption must necessarily depend upon the existence in the blood of some particular substance, possessing a far stronger affinity for oxygen than water possesses. It does not follow because the affinity of this principle in the blood, for oxygen is but weak, that no chemical combination exists between them. One per cent. of phosphate of soda in water, doubles the absorbent power of the water for carbonic acid gas; sulphate of iron in solution dissolves forty times more

nitrogen than a similar bulk of pure water can; and both these solutions again part with their absorbed gases, when placed *in vacuo*, or by agitation of the former with air, the latter with carbonic acid; so that the conclusion is obvious, that saline solutions possess (*may possess*) greater absorbent powers than pure water, a conclusion which applies to the blood.

The absorbent power of a liquid for gases, depends either upon the pressure maintained, or the affinity of that liquid, or of one or more of the constituents of that liquid, for a given gas. Were the oxygen of the blood simply absorbed, it must take up from the air, which itself contains but one-fifth of oxygen, twelve per cent. of this gas; double this amount under twice the pressure; treble under thrice this amount of pressure; and five times the quantity if shaken with pure oxygen. It has not yet been proved, that the absorbent power of blood varies with the amount of atmospheric pressure. Regnault and Reiset have demonstrated that animal life can be maintained in an atmosphere abounding with oxygen; and it is well known that, in the neighbourhood of Lake Titicaca, at 12,000 feet above the sea level, 15,000 persons, and that at Potosi, at an elevation of 12,600 feet, 30,000 persons, live and breathe every whit as well as the inhabitants of the coast; facts which militate against the supposition that oxygen is merely *absorbed* by the blood, for as the absorption would be dependent upon pressure, the amount absorbed at different elevations would be dissimilar, which must necessarily exert considerable influence on the vital action in the mountaineers, or in the dwellers on the sea-shore, a conclusion utterly opposed to observation.

ON THE USE OF BARIUM, CADMIUM AND NICKEL IN PHARMACY.

BARIUM and its compounds, more particularly the chloride of barium (which, by the bye, has been struck out of the text of the new *Pharmacopœia Londinensis*, and merely placed amongst the tests in the Appendix), is just now attracting the attention of physicians, as applicable to those diseases in which the iodides of iron and of potassium, and the tincture of sesquichloride of iron, have been administered with such decided advantage.

The salts of two other metals are likely to come into considerable use as articles of the *Materia Medica*. The metals alluded to are Cadmium and Nickel, of which the sulphates have been lately employed with advantage by some distinguished physicians as serviceable therapeutic agents, more particularly, it is said, in some diseases peculiar to females. (*Annals of Pharmacy*.)

TEST FOR THE PRESENCE OF MERCURY.

If a strong solution of iodide of potassium be added to a minute portion of any of the salts of mercury, placed on a sheet of bright copper, a white metallic silvery stain will be developed, which cannot be mistaken, as no other metal presenting a similar appearance is deposited by the same means. In this way corrosive sublimate may be detected, in a solution unaffected by potash or iodide of potassium. In a mixture of calomel and sugar, in the proportion of one of the former to two hundred of the latter, a distinct metallic stain will be detected with one grain of this mixture, containing but 1-200 of its weight of calomel, and the binocide of mercury can be thus detected, if mixed with 400 times its weight of sugar. This valuable test we owe to Mr. Arthur Morgan. (*Annals of Pharmacy*.)

ANTIDOTE FOR CUPREOUS SALTS.

M. RONCHA, of Strasburg, states that calcined magnesia completely checks the symptoms occasioned by poisoning with sulphate of copper, if taken quickly after the copper salt; but it requires a large quantity of magnesia, eight times the weight of the sulphate of copper, to neutralise the effects of this salt. It is stated as probable, that magnesia will prove one of the best antidotes to cupreous salts, a statement in which at present we should be sorry to express our acquiescence.

TOPICS OF THE DAY.

London, May 28, 1852.

BETHLEM HOSPITAL. The weekly journals have directed attention to the various floating rumours regarding this establishment which have of late been rife. It appears that the Commissioners in Lunacy have made a Special Report to the Home Secretary upon the treatment of several patients, and upon the general management of the institution; that this report has been printed, and placed as a "confidential" communication in the hands of the Committee of Management. We hope that time may unravel the mystery which hangs over this affair: but at present it is but fair to express our conviction that the faults said to be complained of, and which we hope to see reformed, have been justly traced to a defective system, and a too meagre staff, and not to negligence on the part of the present officers, who are in no degree deserving of censure: they, in common with the patients, have been sufferers from the bad working of an inadequate apparatus.

Whatever may be the nature of the facts brought out in the Report, we hail with satisfaction the recent announcement of the governors, of their intention to appoint an efficient salaried medical superintendent, who is to be invested with paramount authority "in everything pertaining to the maintenance, care, occupation, and amusement of the patients." He is also to be a medical teacher. The following extracts from the rules, framed for the guidance of this new officer at Bethlem, will be read with interest and pleasure.

"The proper care of the patients, and the due administration of the hospital, in accordance with the rules, shall be his first consideration, next to which he shall use his best exertions to render the establishment effective as a school for the study of insanity, and the dissemination of knowledge respecting its nature, causes, and proper treatment. To effect which—

"He shall admit, as pupils, medical students complying with the rules prepared for such cases; the governors reserving to themselves the right of nominating, from the metropolitan hospitals, ten pupils, who shall attend gratuitously.

"He shall make such regulations for their instruction, consistent with the comfort of the patients, and the educational proceedings in the other hospitals, as he may see fit.

"The pupils shall have the privilege of attending all *post-mortem* examinations made in the hospital.

"He shall give, during each term, a course of lectures, to be illustrated by the cases under consideration at the time.

"He shall, at the close of each term, examine the several pupils, and shall recommend to the Committee the most proficient of them for appointment as clinical clerk.

"His salary shall be £700 per annum, exclusive of pupils' fees, with a residence in the Hospital, furnished with planned and fitted furniture, and an annual allowance of coals, not exceeding twenty tons, with a limited supply of gas."

These regulations are admirable, and show the good spirit and sound judgment which actuate the governors.

It has, we hear, been decided to erect new infirmaries, for the reception of lunatics labouring under physical, in addition to mental disease. The estimated expenditure is nearly £5,000; but the money could not be better employed. A novel feature characterises the contemplated erections, which deserves being mentioned. As appendages to the new infirmaries, it is proposed to erect two large apartments at the top of the building, so that convalescent patients may at any time have an opportunity of breathing the free air, without going out of doors. In fine, two veranda-like chambers, constructed of glass and iron, are intended to supply this great convenience and desideratum, hitherto not seen in any lunatic asylum in England. Dr. Webster, an active governor, is said to be the originator of the scheme in question. The building operations are to be forthwith commenced, according to the plans, and under the superintendence, of Mr. Sydney Smirke.

OBITUARY.

ARNOLD, William Withering, M.D., (M.B. 1800), formerly of Trinity College, Cambridge, at Leicester, on the 8th January, aged 77.

BUTLER, T. S., Esq., M.R.C.S.Eng., Assistant Surgeon H.E.I.C.S., at his father's house, Brentwood, on the 5th May, aged 32.

DALRYMPLE, John, Esq., Surgeon to the London Ophthalmic Hospital, etc., etc., on the 2nd May, aged 48.

After many days of suffering, subsequent to a prolonged and distressing indisposition, this eminent surgeon and estimable man breathed his last at his house in Grosvenor Street. He was the eldest son of the late William Dalrymple, a surgeon of Norwich, who had acquired an European reputation. Under the auspices of his father, the son commenced in 1820 the study of medicine at the Norfolk and Norwich Hospital. He subsequently went to Edinburgh, and ultimately completed his curriculum of study at the Borough Hospitals. He became a member of the College of Surgeons in 1827.

During his period of pupillage in London, he took an active part in those proceedings that laid the foundation of the School at Guy's Hospital; and there he formed those friendships, the recollections of which are yet fresh in the memories of many who now lament his loss.

In 1827, he found himself settled in the city, an aspirant for practice, and possessing many qualities for ensuring it; as the result of later years fully proved. In 1832, he was elected Assistant-Surgeon to the Royal London Ophthalmic Hospital, where he laboured with his colleagues to preserve the high character of that charity, and contributed largely to rescue the treatment of diseases of the eye from the hands of the empiric, and to place ophthalmic surgery in its legitimate honourable position. In 1834, he published his work on the *Anatomy of the Human Eye*, being the first complete and comprehensive work on that subject in the English language.

Steadily toiling, and slowly advancing in practice, in 1839 he removed to the West End; and now his success may be said to have been decided. In 1843, he became full Surgeon to the Ophthalmic Hospital, and in the same year was elected a Fellow of the College of Surgeons; but, in 1849, he was compelled by the state of his health to resign his appointment at the hospital. The governors of that institution fully appreciating his merit, and anxious to retain his name and his cooperation, elected him to the office of Consulting Surgeon. He was also, in 1847, requested to accept the appointment of Consulting Surgeon to the North London Eye Infirmary, an institution in which he took much interest, and of which he was a liberal supporter.

In 1850, he was elected a Fellow of the Royal Society, and in 1851, he was chosen one of the Council of the College of Surgeons.

He was one of the founders, and a zealous supporter of the College of Chemistry.

Of late, and for some years past, he had been engaged on his great work, *The Pathology of the Human Eye*. For beauty and truthfulness of delineation, and for accuracy and conciseness of description, it will long remain a monument of the author's fame, and of the great extent to which the medical literature of England is indebted to him. In an early number, we propose to give our concluding notice of this classical work.

Great industry, and experience in all that related to ophthalmic disease and ophthalmic surgery, added to a disposition at once honest, considerate, and kind, had ensured for John Dalrymple, in a comparatively short period, the confidence of his professional brethren, and a large share of public esteem. While the profession and the public have to lament his death, the former must feel that they have lost a friend, and the latter that they have been parted for ever from a liberal and talented adviser. But, though much endeared to his medical brethren, it must be the melancholy privilege of his family and intimate friends, fully to appreciate his noble, generous, and gentle nature.

He was the cotemporary and intimate companion of Liston. The two friends are now laid side by side in the same grave. Both were cut off in the prime of life, and in the zenith of their success.

FITZPATRICK, Nicholas, M.D., late of the Royal Artillery, at his residence, the Lodge, Bedford, on the 13th May.

- HARRY, John, M.D., on the 8th March, aged 70. Dr. Harry was formerly Private Physician to Her Imperial Highness the Grand Duchess of Oldenbourg, and afterwards to her sister, the Queen-Mother of the Netherlands.
- HOGG, Thomas, Esq., formerly Surgeon to the 76th Regiment, at Edinburgh, on the 12th February.
- MURRAY, Thomas, Esq., of the Bengal Medical Service, on the 11th January, at Calcutta, aged 35.
- THOMSON, William, M.D., Professor of Medicine in the University of Glasgow, at Edinburgh, suddenly, on the 12th May, aged 49.

He had for some years been subject to severe attacks of bronchitis, and was also afflicted with disease of the heart and liver. On the 10th, he went on a visit to Edinburgh: on the 11th, he was pretty much in his usual state of health: on the evening of the 12th, he was seized with alarming symptoms, and expired in a few hours.

Dr. Thomson was a man of extensive learning, varied accomplishments, gentlemanly bearing, and great uprightness of conduct. He was, we believe, more attached to pathology and medical literature, than to the study of therapeutics.

The deceased professor was the eldest son of the late illustrious Dr. John Thomson, of Edinburgh. In Edinburgh, he filled successively the offices of Physician to the Royal Dispensary and Royal Infirmary; and for one or two sessions, he delivered, as his father's substitute, the Lectures on Pathology in the University. On the death of his predecessor, Dr. Badham, in 1841, having been presented by the Queen to the vacant chair, he removed to Glasgow.

Dr. Thomson's principal works are—*A Treatise on Diseases of the Liver; A Memoir on Coal-Miner's Phthisis; and A Biographical Sketch of his Father.*

BOOKS PRESENTED TO THE EDITOR.

[*Exclusive of Periodicals Received in Exchange.*]

- ANDERSON, William John. Diseases of Pregnancy. 8vo. pp. 119. London: 1852.
- ARMITAGE, T. R., M.B.Lond. Hydropathy as applied to Acute Disease. Illustrated by Cases. pp. 187. London: 1852.
- BUDD, George, M.D., F.R.S. Diseases of the Liver. *Second Edition. Plates.* 8vo. pp. 486. London: 1852.
- GREGORY, William, M.D., F.R.S.E., Professor of Chemistry in the University of Edinburgh, Hand-book of Organic Chemistry. 12mo. pp. 532. London: 1852.
- HARRISON, John, Fellow of the Royal College of Surgeons of England. Pathology and Treatment of Stricture of the Urethra. *Plates.* 8vo. pp. 102. London: 1852.
- HUTCHINSON, John, M.D. The Spirometer, the Stethoscope, and Scale Balance: their Use in Discriminating Diseases of the Chest. 8vo. pp. 79. London: 1852.
- MONRO, Henry, M.B.Oxon. Articles on Reform in Private Asylums. 8vo. pp. 23. London: 1852.
- MURPHY, Edward William, M.D., Professor of Midwifery in University College, London. Lectures on the Principles and Practice of Midwifery. *Illustrated by Lithographic Plates and Wood-cuts.* 8vo. pp. 616. London: 1852.
- PARKIN, John, M.D. Statistical Report of the Epidemic Cholera in Jamaica. 8vo. pp. 61. London: 1852.
- ROSER, W., Professor of Surgery in the University of Marburg. Chirurgisch-Anatomisches Vademecum für Studirende und Azte. 8vo. pp. 226. Stuttgart: 1852.
- ROSER, W. Die Lehre vom Hornhaut-Staphylom. Nach dem gegenwertigen Standpunkt der Wissenschaft zusammengefasst. 4to. pp. 44. Marburg: 1851.
- THOMSON, Spencer, M.D. Dictionary of Domestic Medicine and Household Surgery. Parts III, IV, V, and VI. London: 1852.
- *** We have been much pleased with the matter and the tone of this work: in an early number we hope to have room for some extracts.
- WILLIAMS, Joseph, M.D. Insanity; its Causes, Prevention, and Cure, including Apoplexy, Epilepsy, and Congestion of the Brain. *Second Edition.* pp. 317. London: 1852.

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ORIGINAL COMMUNICATIONS.

ON ULCERATION OF THE STOMACH, AND ULCERATION OF THE ŒSOPHAGUS.

By THOMAS K. CHAMBERS, M.D.; Physician to St. Mary's Hospital.

(Read before the Harveian Society, May 6.)

It is very necessary to place some guard over that weakness of our minds, which causes positive events to take a much firmer hold on the memory than negative ones, which allows the seeing a thing a few times to outweigh the hundred times we do not see it under similar circumstances, and consequently causes false inferences to be drawn. With the intention of placing such a check on the fancy, I think it always desirable to select cases, if possible, from a definite number taken consecutively, and to let that definite number be the whole that have come under notice during a certain period. We shall thus get a fair notion of the real frequency or rarity of the phenomena we are observing, and of their consequent importance; and we shall have a source of statistical information, scanty perhaps, but ten times the worth of a collection of facts made sporadically, or with the view of proving a predetermined point.

With these views, I have arranged for our consideration this evening all the cases of ulceration of the stomach and ulceration of the Œsophagus, which have been found in the bodies examined at St. George's Hospital, from January 1, 1841, to December 31, 1850; and at St. Mary's Hospital, from its opening, in June last, to the present date. The number examined during the first period was 2,210; and, in the latter, 55. At St. Mary's, these were the whole of the deaths; but at St. George's, the objection of friends, and other circumstances, have prevented the opening of 329. Our table, therefore, will represent the times which each phenomenon has appeared in 2,265 *post-mortem* examinations, made in 2,594 fatal cases.

ULCERATION OF STOMACH.

CLASS A. ULCERS NOT IN THEMSELVES FATAL.

No.	Age.	Sex.	Description of Ulcers and Stomach.	Chronic History.	Causes of Death and Recent History.	Reference to post-mortem books.
1	25	F.	Punched holes through the mucous membrane, near the lesser curve, with sharp edges; stomach vascular and livid, but not thickened.	Viscera healthy.	Inflammation and ulceration of intestines.	St. George's, 1841, p. 62.
2	35	M.	Two ulcers in front between the two curves, as big as a sixpence, and as a pea.	Encephaloid disease of the pelvic organs, but not elsewhere.	Pelvic disease.	St. George's, 1845, p. 216.
3	22	M.	One small ulcer of mucous membrane.	Phthisis pulmonalis.	Pneumothorax.	St. George's, 1846, p. 170.
4	62	M.	Superficial ulcer near pylorus; stomach vascular, but not thick.	Dropsy from diseased heart, liver, and kidneys; no stomach symptoms.	Dropsy, etc.	St. George's, 1846, p. 220.
5	47	M.	Ulcer near pylorus, as big as a crown piece, with rough abraded edges.	Anasarca, albuminuria, ascites; diseased kidneys, liver, and spleen; no stomach symptoms.	Peritonitis, epistaxis, and increased dropsy.	St. George's, 1849, p. 235.
6	57	M.	Superficial ulcer near pylorus; stomach vascular, but not thick.	Dropsy from diseased heart and liver; no stomach symptoms.	Dropsy, dyspnoea, bronchitis.	St. George's, 1850, p. 27.
7	30	M.	Superficial ulcer near pylorus, in lesser curve.	Cirrhosis of liver; no stomach symptoms.	Fracture of femur, and consequent peritonitis.	St. George's, 1850, p. 127.
8	61	F.	Three ulcers through mucous coat in centre of lesser curve, as big as a shilling, a sixpence, and a three-pence, thickened edges, and vascular stomach.	Thickened capsule of liver; phthisis pulmonalis six years; pain in left hypochondrium, and fanciful appetite.	Increased cough and emaciation, with anasarca.	St. Mary's, vol. I, case 26.
9	41	F.	One ulcer near pylorus, one inch across, with raised edges.		Inflammation of colon, duodenum, and peritoneum, with pericarditis and pleurisy, consequent on an operation for strictured rectum.	St. Mary's, vol. I, case 44.

CLASS B. ULCERS FATAL BY PERFORATION.

10	20	F.	Perforation of posterior surface of stomach, surrounded by slight thickening.	Circumscribed abscess in right hypochondrium.	Circumscribed abscess in right hypochondrium, which perforated into the bronchi.	St. George's, 1842, p. 87.
11	25	F.	Smooth-edged perforation an inch below the middle of the lesser curve; stomach rather vascular.	Circumscribed abscess in left hypochondrium; other viscera healthy.	Pericarditis, pleurisy.	St. George's, 1843, p. 12.

12	23	M.	Perforation, with hard edges, in lesser curve; adhesions to liver and pancreas prevented escape of contents of stomach.	Painter's colic and blue gums.	Peritonitis.	St. George's, 1844, p. 35.
13	21	F.	Perforation of posterior wall, somewhat larger than a shilling, with smooth bevelled edges.	Adhesions to pancreas and old peritonitis; pain in left hypochondrium for many years, worse after food; four years before death, hæmatemesis.	Peritonitis, pleurisy, pneumonia.	St. George's, 1845, p. 274.
14	46	F.	One perforation on anterior, one on posterior wall, as large as shillings, larger inside than out.	Three years' pain in epigastrium; two years ago, hæmatemesis; old peritonitis; other viscera healthy.	Recent adhesions to pancreas; peritonitis, pneumonia, pleurisy; six days' rigors, and violent pain.	St. George's, 1845, p. 278.
15	37	M.	Perforation of anterior wall opening into gall-bladder; stomach thick and contracted.	Rheumatic disease of heart; disease of kidneys; no stomach symptoms.	Severe rigors, vomiting, and collapse; peritonitis, but no escape of the contents of the stomach.	St. George's, 1847, p. 49.
16	58	M.	Ulcers round pylorus, and thickened walls of stomach; a perforation of lesser curve, as big as a crown piece.	Old adhesions to gall-bladder, liver, and pancreas; granular kidneys; two years' pain in epigastrium; four months before death, hæmatemesis.	Six weeks' pyrosis; ten days before death, hæmatemesis; sinking, but no peritonitis.	St. George's, 1849, p. 35.
17	16	F.	A punched perforation, wider inside than out, as big as a bean, in lesser curve of stomach.	None; viscera healthy.	Circumscribed peritonitis, acute bronchitis, pleurisy; chest symptoms, and pain in right side twelve days.	St. George's, 1849, p. 71.
18	19	F.	Perforation one inch from cesophagus in lesser curve; another ulcer near; walls of stomach thick.	Viscera healthy; general health good.	Peritonitis, acute bronchitis, pneumonia.	St. Mary's, vol. I, case 27.
CLASS C. ULCERS FATAL BY HÆMORRHAGE.						
19	34	M.	Ulcer on posterior inferior wall, perforating, but blocked up successfully by pancreas; opening into splenic artery.	Cirrhosis of liver.	Weight in epigastrium two weeks; fatal internal hæmorrhage.	St. George's, 1845, p. 159.
20	42	M.	Ulcer in smaller curve, two inches from cesophagus, as big as a shilling, edges slightly thickened; no open vessel could be found.	Emaciation, but no pain anywhere.	Hæmatemesis and collapse therefrom.	St. George's, 1844, p. 182.
CLASS D.						
21	38	M.	Ulcer in pyloric region.	ULCERS FATAL BY EXHAUSTION OF VOMITING.	Exhaustion.	St. George's, 1844, p. 186.
22	24	F.	Ulcer on posterior surface two inches long, one and a half broad, edges rounded off, and not thickened.	Enormous distension of stomach; cicatrix of an ulcer which had healed; for some months occasional hæmatemesis, nausea, and vomiting.	Exhaustion.	St. George's, 1845, p. 46.

I lay these cases before you, in the hope that they may be viewed as *mémoires à servir*, though of course not a complete history; and that they may suggest observations from others, while I read the details of three of them which I was myself responsible for, as occurring in my practice, and make references to the others under our notice, illustrative of the more interesting points.

CASE. The first notes I shall read are on No. 8, a laundress, aged 61, who had suffered for upwards of six years from cough, dyspnœa, and debility. She had undergone much privation, and was greatly emaciated. There were signs of a cavity in the apex of the right lung, slight anasarca, albuminuria, and progressive weakness and emaciation. The appetite was capricious; pain was felt on taking some kinds of food, especially potatoes, though rice was taken with ease; and there was pain, on pressure, in the left hypochondrium. She died of exhaustion, and was opened in the dead house at St. Mary's.

NECROPSY. On examination of the corpse, an old large cavity, with scarce any tubercular matter in its circumference, was found at the apex of the right lung; and one the size of a nut, which appeared to be in the course of contraction, in the left. The capsule of the liver was thickened, and projections of the thickened capsule extended into the substance. The structure of the kidneys was confused in appearance, and the tubes were filled with epithelium. In the centre of the lesser curve of the stomach were the three ulcers you see in this bottle, with the edges raised and thickened; and the rest of the mucous membrane vascular, but the walls of the organ not increased in substance.

OBSERVATIONS. I have classed this case along with eight others of a somewhat similar character, and in which the termination, at least, was exactly similar, namely, in which the ulcers were not in themselves the cause of death. We might, perhaps, hope to learn something of the symptoms of the disease and its concomitant pathological states, uncomplicated with those arising from the severe accidents to which it gives rise. But there is little of this hope realised. In three of the cases, it is specially recorded that there were no symptoms referrible to the stomach; and in the others, none were prominent enough to have attracted the attention of those in charge of the patients, except, indeed, that the old woman whose case I have just detailed had a pain in the left hypochondrium, and a fanciful appetite, which preferred rice to potatoes; but no pyrosis, or any other symptom of aggravated dyspepsia. Nor are the symptoms more marked in the cases where the ulceration has been directly fatal.

There may be several explanations given of this absence of local phenomena. First, that where other diseases of a more painful nature exist, the less may be masked by the greater; as, for example, when we are having a tooth drawn, we do not feel the dentist treading on our toe. Or it is possible that the confinement to bed, and the restricted diet imposed on the patient by the more important diseases of which people usually die, may tend to heal up ulcers of the mucous membrane, and so render its morbid states a greater rarity to the pathologist than to the practitioner. So we find it in a mucous membrane visible to the eye; abraded, and even ulcerated sore throats, constitute an appreciable fraction of our annual practice; yet I find that, in the 2,210 *post-mortem* examinations made at St. George's in ten years, the pharynx was found

reddened by inflammation only thirteen times, and ulcerated six times, and the tonsils ulcerated but eight times. So, too, the pharynx of a young woman, whose case I shall relate as one of ulcerated œsophagus, presented three weeks before death a decided abrasion, which after death was not to be seen. Or it may be, that the want of common sensibility in the organ touched, makes it irresponsive to our modes of examination. I am inclined to attach much importance to this last explanation; and for this reason, that where pain does exist, it seldom points out the exact locality of the injury, being referred in several cases to the left hypochondrium, when the ulcers were found after death in a different situation. It is very probable that disordered sensations, proceeding from the mucous membrane of the stomach, are felt only at its outlets, in an analogous manner as irritation of the colon is felt at the anus, of the bronchi at the glottis. The same, however, does not happen where the peritoneal covering or the cellular tissue of the organ is involved, as in malignant disease; the pain proceeding from which will, I think, usually truly denote its locality.

Is ulceration of the stomach an idiopathic lesion, or is it a proof merely of the existence of some other morbid state? Now, if it is found constantly, or even frequently, associated with a certain class of diseases in life, or unnatural appearances after death, we might be led, even by the small number of examples before us, to put them together as cause and effect. But the evidence we have seems to show the reverse; for if we look down the column appropriated to chronic history, we shall see that the concomitant degenerations of the viscera are so various, and in so many cases, where the accidents arising from the local disease have proved fatal, are the other organs quite healthy, that I think we may fairly consider ulceration of the stomach, as in all cases, an independent disorder, and not a symptom or a consequence of other affections.

The only remark on treatment which I have to make in connexion with this case, is that low diet alone will not remove the disorder, for the poor woman had been sadly starved before her admission, yet retained, as you see, her ulcers. No special treatment was directed to the stomach, while she was under my care.

CASE. I shall next call your attention to No. 18. E. M., aged 19, a maid of all work, had usually, by her own report, enjoyed good health till a week before her admission to St. Mary's, Nov. 26, 1851, when she had slight pain round the fore part of her waist. On the noon of the 26th, this pain greatly increased, and was accompanied by great pain in the shoulders, dyspnoea, and tenderness of the lower belly. On admission, the lips were livid, she could hardly breathe, the pulse was 120, and the skin dank and chill. There were loud sibilant râles on both sides of the chest, but most strikingly on the right, on the lower part of which lung there was also fine crepitation. When warmth was restored to the skin, she was bled, and antimony given in full doses, without producing sickness. On the 28th the pulmonary symptoms were much relieved, chief attention being drawn to agony in the shoulder-joints and abdomen, which was very tender when touched. The patient, however, lay on her side, and stretched out her legs if she lay on her back. There was also absence of vomiting, so that the diagnosis of peritonitis would have been a doubtful

one, had it not been confirmed by a peritoneal rubbing sound, produced by the very partial motion of the diaphragm in the right hypochondrium, and by the fixed condition of the abdominal walls during respiration, as shewn by my friend Dr. Sibson, the inventor of the most ingenious instrument we have for measuring minute motion. The patient was leeches on the belly, and calomel with opium and antimony given. Early on the 30th, she died rather suddenly, having pronounced herself better shortly before.

NECROPSY. Of the right lung, the lower lobe was slightly crepitant on the surface, but internally quite solid, sinking in water. There was livid congestion of the bronchi. The left lung was also loaded with blood, and presented some points of solidification, especially in a portion of the centre of the upper lobe. There was injection of the bronchial tubes, but in less degree than in the right lung. In the peritoneum, there was much recent fibrin and soft adhesions, and an injected state of that part of the membrane which covers the bowels. There was much fluid in the cavity of a faecal odour, in which also some small pieces of yellow faecal matter were floating. In the lesser curve of the stomach, two inches from the œsophagus, there was a hole the size of a threepenny-piece, larger inside than out, surrounded by thickened and contracted walls of the organ; and a little lower down there was another ulcer, extending through the mucous coat.

OBSERVATIONS. We have here an instance of an ulcer, which, from the state of the surrounding stomach, may fairly be supposed to have lasted some time, producing little or no symptoms, and terminating by the fearful accident, which these lesions, when they are fatal, usually end in. In the list before you, it will be seen that perforation had occurred in eleven of the thirteen cases, in which ulcer of the stomach had been the cause of death; and in nine it had been directly fatal by the super-vention of peritonitis.

Perforation, therefore, is the most natural end of ulceration of the stomach, if it runs its full course. And what a fearful end! I protest that when treating cases where ulcer of the stomach is likely, I have shuddered at the thought that there is possibly but a piece of gold-beater's skin between the invalid and death.

Perforation, as a consequence of ulcer, seems more common in youth than in middle life. Seven of the eleven instances occurred under twenty-five years of age. I do not, however, think there is anything *sui generis* in the ulcer of this period, nor do I call "*perforating ulcer*" of the stomach a disease of the early part of full growth, as softening of the stomach is of infancy. All ulcers seem to me to be "*perforating*", if they have their own way; and their greater frequency in youth, may be due to the greater vigour and activity which all morbid processes then assume, or perhaps to the strong chemical action of the gastric juice.

The same tendency to strike deep and perforate, exhibited by ulcers in youth, is equally seen in ulcerations of other parts of the intestinal canal besides the stomach, and, moreover, appears quite independent of the disease which has given rise to the ulceration; it is the young and vigorous whose intestines become perforated, whether the first origin of the evil was pulmonary consumption, dysentery, fever, or chronic inflammation. This fact is proved by the same decennial collection of

2,210 *post-mortem* examinations at St. George's Hospital, which I before quoted. In 129 of these, various parts of the intestines, not including the rectum, were ulcerated, in connexion with tubercular disease in the lungs and elsewhere; and in ten of the 129, perforation had taken place. The ages of the ten were as follows, placed in order of their youth, namely, 15, 16, 17, 22, 22, 25, 29, 33, 34, and one young man of age unknown. In eighty other cases, non-malignant ulceration had occurred from various causes, chronic and acute,¹ independent of tuberculosis; and perforation had occurred in several parts (exclusive of the rectum) in sixteen instances, as a consequence of the extension of the ulcer outwards.² The ages of these sixteen patients were, 7, 16, 16, 16, 20, 21, 22, 24, 24, 28, 30, 30, 30, 35, 37, 56. These examples suffice to show exactly the same fact as our table of ulcerations of the stomach; namely, that *all* ulcers tend to penetrate the peritoneum more in youth than in declining years, but that such a tendency is not by any means confined to one period of life, nor to one peculiar species of ulcer.

It is also a common observation, that ulceration of the stomach is more common among females than males. This is quite borne out by the fact that seven out of ten persons under thirty years of age, in whom it was found, were of the former sex. The difference in the proportionate frequency with which the sexes are attacked, is not sufficiently striking to lead to the supposition that it arises from any mysterious connexion between the stomach and those organs which distinguish man from woman. I should prefer attributing it to some of the habits of half-civilised life which females, voluntarily or involuntarily, persist in; such as wearing ill-fitting stays, with rigid beams in front pressing upon the viscera; leaning forward to work immediately after food; swallowing their meals unmasticated; keeping decayed teeth in their heads; allowing mental emotion to check digestion; and a variety of other well-known causes of the difficulties into which their stomachs fall.

It may be remarked, that perforation of other parts of the intestinal canal seems very impartial in its choice. Among the ten cases mentioned above, connected with tuberculosis, there were six males and four females; and of the sixteen arising from other various causes, seven were males, and nine females.

In the case I read, we could elicit no history of chronic pain or indigestion. Possibly the poor girl's memory of minor pains was blunted by the intensity of present sufferings; or it may be that they really did not exist. But sometimes vomiting, pyrosis, and occasional hæmatemesis, are experienced for months before the fatal result. One young woman of 21, (No. 13,) had pain in the left hypochondrium, worse after food, "for years" before; a man of 46, (No. 14,) had felt pain in the epigastrium three years, and hæmatemesis two years before; a man of 58, (No. 16,) had very similar symptoms. Sometimes the

¹ Cases of typhoid fever are fairly included, because, though the primary solution of continuity in the intestines is of the nature of slough, yet the perforation of the peritoneum is the consequence of ulceration following that slough, and occurs usually after the fever is gone.

² This latter clause is to exclude cases of perforation from injury and from external causes, as, *e. g.*, from a gall-stone eating its way into the duodenum.

hæmatemesis is very considerable in amount, and in two cases in the list before us was the cause of death. Sometimes the exhaustion consequent on the vomiting and want of nourishment is so great, as to cause death without any other accident, as happened in Nos. 21 and 22.

Where we have such a long history in a case of suspected perforation, it is a great guide to our diagnosis. But we must not look for it, or consider that the absence of precursory symptoms is a proof of the absence of the lesion we fear.

In this woman, we may observe that the most prominent symptoms at first were those referrible to the chest; she had acute bronchitis and pneumonia. Acute bronchitis also occurred in No. 17, a girl of sixteen years old; and pleurisy with pneumonia in cases 13 and 14. Now acute bronchitis is a very rare disease: its occurrence therefore twice, and that of pleuro-pneumonia twice, I cannot but consider as something more than a coincidence. But why an inflammation, commenced in the peritoneum, should not only affect the bronchi, but affect them in such a degree as almost to conceal the chief disorder, I am unable to explain. One peculiar symptom, arising from the state of the lungs, I must call your attention to, namely, the pains in the shoulders. This I am in the habit of viewing as a sign of pneumonia of the upper lobes; but I will not dwell on this extraneous remark further than to observe that the diagnosis was borne out by the dissection. As respects the peritonitis, in most cases it is present; but in one it was not (I refer to case No. 16). The probability is, that death occurred so rapidly, that there was not time for it. The sudden collapse from the shock was fatal.

In Nos. 10, 11, 17, 19, and 22, general recent peritonitis did not happen, because there were old adhesions in the membrane, which prevented the escape of the contents of the stomach. Here we have examples of the prolongation of life, by means of the natural cure of perforation, obviously the only cure which can take place, namely, by means of adhesions to the surrounding viscera. In another instance, (No. 15,) an adhesion to the gall-bladder was effected, which prevented the escape of the contents of the stomach, but did not prevent peritonitis.

In a list, the terms of admission to which are that the cases should have been fatal, it is not to be expected that many instances of *effectual* cure should be placed; but still, the above examples suffice to give us hope, that even perforation is not an absolutely fatal accident.

It may interest some, to compare the chances of perforation from simple ulcer, and from malignant disease of the same organ. In the decennial period at St. George's Hospital, ending Dec. 31, 1850, there died thirty-four cases of malignant disease of the stomach, and in these perforation occurred thrice; there were nineteen cases of simple ulcer, and perforation was found in nine of these. The difference is sufficiently marked to make the smallness of the numbers of no importance.

Besides perforation, another very intelligible danger consists in the liability of the blood-vessels of the stomach to be eaten into. Hæmorrhage existed in six cases, and in two it proved fatal. I say hæmorrhage, and not hæmatemesis, because once (No. 20) the bleeding was wholly internal, no blood being vomited.

Under what circumstances excessive vomiting and emaciation occur in simple ulcer of the stomach, I am unable to say. Though the rule

in malignant disease, they are certainly here the exception, having proved fatal to but two patients (Nos. 21 and 22).

I have now, I think, reviewed the forces of the enemy, and it is worth considering what chances we can see before us of his being overcome. Supposing we knew ulceration of the stomach to exist, what likelihood is there of life or recovery? If superficial, we see by the example of the pharynx that it may, and, I believe, often does, depart without leaving its footsteps. If deep, so as to penetrate beneath the mucous membrane, it may heal up, contracting the surrounding tissue of the stomach by a cicatrix. This was the good fortune of No. 21, in whose stomach was the cicatrix of an ulcer, such as I have described. It is true he died afterwards of others, which did not heal; but that does not invalidate the fact. If complete penetration is effected, the surrounding viscera prove good allies. If you refer to Nos. 19 and 22, you will see two instances where the pancreas was a friend in need, and successfully blocked up the path of death with its own body:—*successfully*, in so far that no escape of the contents of the stomach took place; and life was prolonged till the ulcer divided the splenic artery in one case, and the patient was worn out by exhaustion in another. In Nos. 13 and 16, there were old adhesions; and in No. 14, a recent attempt to secure the same result, but ineffectual.

While speaking of finding the contents of the stomach in the peritoneum, I may observe, that we are not certain all we find there had escaped during life. *Post-mortem* digestion is readily distinguishable; and I do not allude to that accident, but to obvious cases of perforation, like the one before us now. Something doubtless escapes in life, to cause peritonitis; but something more after death. You may have observed, in the case I read, that what we found was not the contents of the stomach, but faecal matter. Now, no faecal vomiting, or indeed any vomiting at all, had occurred; so the regurgitation of that matter from the lower bowels had not taken place during life, but must have been the consequence of the manipulations of those who laid out the corpse.

Again, life may be prolonged to the natural term, by the non-supervention of any of the accidents to be dreaded; and death may come at a good old age, from other causes. This is clear, from several of the first nine cases; fifty-seven, sixty-one, and sixty-two years of age, being nowise early for persons to die, who have chronic diseases of the viscera.

As respects treatment, I think that those cases, occurring as frequently as they do, should teach us rather more caution in our management of indigestion, than it is the fashion to exercise. The diagnosis of ulcers of the stomach from irritable, hysterical, or hypochondriac dyspepsia, is difficult; and I think we should not be so decided in our medication of these latter diseases, in obscure cases, as to risk doing harm, in the event of the organic lesion existing. Leeching, cupping, and blistering the epigastrium, so often does good, even in hysterical and anæmic patients, who suffer from gastralgia, that I think it quite compensates for the slight loss of strength it may occasion; and if by these means we may prevent a slight inflammation of the stomach from running on to ulceration, or an ulcer from spreading, we ought to use them. In some cases of strongly-suspected ulcer with gastralgia,

though unaccompanied by pyrosis, I have found trisnitrate of bismuth of such great benefit, that I cannot but think it acts beneficially on ulcers of the mucous membrane. This is confirmed by what I observed in an example I am shortly about to relate to you of ulcer of the œsophagus. This young woman experienced so much relief from bismuth, that by its aid alone she was able to swallow food, which otherwise was impossible to her. The irritability of the ulcer was apparently blunted by the drug, so that the constriction and reversed action naturally produced by a foreign body, did not take place. Nitrate of silver, sulphate of copper, prussic acid, and other remedies, had no similar effect. As an encouragement to the use of bismuth, may be cited the advantage which is gained from its use in phthisical ulceration of the bowels, which is often so checked, that the diarrhœa ceases; as also in chronic dysentery, which even in India, as Dr. James Bird tells me, gets quite well by this means alone.

ULCERATION OF THE ŒSOPHAGUS.

No.	Age.	Sex.	Post-mortem appearances.	Case.	Reference to post-mortem books.
1	40	M.	Aneurism of arch of aorta opening into œsophagus.	Pain in back in the situation of the two upper thoracic vertebræ, greatly increased by swallowing, and pyrosis; death by vomiting florid blood.	St. George's, 1845, p. 13.
2	64	M.	Long ulcer quite through the œsophagus, but not perforating any viscus; hepatisation of the base of the left lung.	Incessant vomiting on taking food or liquids; great emaciation.	St. George's, 1843, p. 37.
3	25	F.	Ulcer of œsophagus perforating pericardium, inflammation of the right bronchial glands and root of lung; ecchymosis of cardiac end of stomach, which was enormously dilated; waist contracted.	Vomiting three months, difficulty of swallowing, pain in epigastrium, sensation of lump at the top of the gullet; rapid death from perforation of pericardium.	St. Mary's, vol. I, p. 43.

I will now proceed to detail the case I have just alluded to, of ulcer of the œsophagus, and to compare it with two other cases from St. George's Hospital.

CASE. E. S., aged 25, (No. 3 on the table,) a housemaid, was admitted into St. Mary's, Jan. 23, 1852. She was pale and somewhat reduced, and had a slightly anxious look. She said that three months before, without being able to assign any reason, she had begun to vomit her food almost immediately after taking it, and that when these symptoms had lasted four or five weeks, she found a difficulty in swallowing, and at the same time a pain in the pit of the stomach, aggravated by pressure. At the time of admission, she evidently could get scarcely any food down to her stomach, as what she took came up again in from one to five minutes, seeming quite undiminished in quantity. There was an aching "digging" pain between the shoulder-blades, worse when warm in bed; but the epigastric pain was less than it had

been. There was redness and slight abrasion at the back of the pharynx, and enlarged tonsils. As I said before, bismuth alone seemed really to relieve her. By taking ten grains before eating, she was often able to pass a moderate meal of beef-tea, eggs, and chocolate, into her stomach. Of all drinks, chocolate seemed easiest to swallow. Blisters to the epigastrium checked also, in some degree, the vomiting. These means, and the use of enemata of beef-tea, prevented the emaciation from increasing during her residence in the hospital.

One puzzling part of the diagnosis was, that there was evidently some obstruction to the entrance of the air into the right lung; it was resonant, and expanded freely, but the breathing throughout was much less loud than in the left; and Dr. Markham, whose ear is very delicate, remarked a difference in the resonance on percussion in the two sides, at a point between the scapulæ, corresponding to the root of the lung. At the end of February she seemed to me to have contracted a catarrh, and coughed a good deal, and the throat was relaxed. As the cough got worse, she was able to swallow better, and was not sick. On March 1st, the cough was increased, and there was much fever, with a small pulse of 120, and great depression. The heart was only cursorily examined, and no remark made about it. On the morning of the 3rd, the lips suddenly became blue, the pulse ceased, the abdomen became excessively distended by wind, and she died in about an hour.

NECROPSY. On opening the abdomen, the pyloric end of the stomach was seen to reach down to half an inch below the level of the anterior superior spinous process of the ilium; it was nearly vertical in position, and much distended. The liver extended four inches and a half below the ribs; these two organs, and a small coil of intestines, being all that was seen on this section. The waist was very small, and the lower outlet of the thorax much contracted. On opening the chest, there were found some slight adhesions between the left lung and the pericardium, and also some in the back part of the pleura. The pericardium was distended, as if from air; and from a puncture made at the upper part, fetid gas and a thin yellow fluid exuded, having a sour smell, and being acid to test-paper. On laying open the pericardium, it was found full of this thin, yellow, curdy fluid, and the visceral layer was rough, with a deposit of recent fibrin. On raising the heart, there was seen a small opening in the pericardium, at a point corresponding to its reflexion from the pulmonary vessel, to the left auricle; and, on pressing the stomach, fluid and air passed through this hole into the pericardium. Opening the œsophagus from behind, we found it ulcerated in its entire circumference, from the level of the bifurcation of the trachea, to half an inch above the diaphragm; and, through a sinus in this ulceration, a probe could be passed obliquely into the pericardium. There was another ulcerated opening, communicating with a small inflamed patch in the left lung, which was separated from the cavity of the chest by easily-broken adhesions. There was a cluster of enlarged bronchial glands bound down on to the right bronchus, and somewhat diminishing its calibre. On opening the stomach, considerable ecchymosis of its cardiac end was remarked, but there were no ulcers in that or any other portion of the intestinal canal. The liver, kidneys, ovaries, and uterus, appeared healthy, except that the mucous membrane around the os uteri was slightly abraded.

Non-malignant disease of the Œsophagus is rare; and I have had to class this case along with two others which resemble it in no other point except the destruction, without malignant disease, of the structure of the tube. The first records the forcible invasion of the gullet by an aneurismal tumour, the pressure of which caused ulceration and absorption of the walls. Two instances of the same catastrophe are recorded in the *Medico-Chirurgical Transactions* (vol. ii, p. 244, and vol. xvi, p. 339). It must be fatal, but still is not necessarily so immediately; the patient mentioned in vol. xvi having survived for eight weeks. Within eight weeks it is possible for any of us to be called upon to make an accurate diagnosis; and it is worth while to bear in mind the possibility of this lesson when examining cases of bloody vomiting. In another case (No. 2), death occurred from the patient being worn out by emaciation and vomiting—starved to death, in fact.

Ulceration of the Œsophagus seems to have been little written about, while hysterical or spasmodic dysphagia, and paralytic dysphagia, receive so much notice that we fancy them very much more common than they really are. The reason probably is, that they are more curable, and curable in a very pleasant, striking way, delightful to describe. Van Helmont says he was called to see a noble lady, who had not been able to swallow for three months: “Accessi,” says the medical Cæsar, “malum cognovi, et confestim sanavit illam Dominus”!¹ Similar exploits are recorded in more modern writers. Ulceration, however, is not to be cured in this “veni, vidi, vici,” manner; indeed, I should doubt whether it is to be cured at all, usually ending in the awful tortures of gradual starvation. Life, however, may be sometimes protracted to a very considerable period. In a case recorded by Sir Charles Bell, consequent on swallowing caustic alkali, the patient lived for twenty years after the accident. How long death might have been postponed, in the case before us, it is difficult to say; the patient was able to swallow better, and she was not losing flesh, when the ulcer took the turn which proved fatal.

I am not aware that there is any other instance on record of simple ulceration penetrating the pericardium. But how easy and natural the passage is from one viscus to the other, is shewn by a case brought before the Pathological Society by Dr. Quain, where a juggler, in swallowing a sword, thrust the weapon into that serous membrane, and caused it to inflame.

Pericarditis, too, but not perforation, I can quote as happening in malignant tumours of this part of the alimentary canal. In ten cases of such degeneration, which died in St. George's Hospital during the decennial period before alluded to, pericarditis was found in two (year 1841, pp. 229 and 257); and it existed in the one example of malignant disease of the Œsophagus which we have had at St. Mary's, under the care of Dr. Sibson.

I would not have dwelt on this subject, if it had not a practical bearing; and have drawn your attention to it, principally because, though a mere pathological fact, it may still teach us something useful in our management of the sick. It may teach, I think, caution in the introduction of instruments into the gullet. Several medical men saw

¹ In capitulo “Asthma et Tussis”, No. 31.

this patient while in hospital; and all of them with whom I spoke, asked me whether a probang had been used to explore the throat. I got quite ashamed of my remissness in research, and that shame and my own curiosity were strong temptations to make the trial. But the power which remained, of occasionally retaining food under the influence of medicines, rendered immediate action unnecessary; and, moreover, confirmed me in my original diagnosis of simple ulceration, and in resistance to the temptation. Thus was avoided the painful feeling which would have been left upon the mind had an instrument been passed, and death soon followed the operation. Let me not be understood as objecting unreservedly to the use of the probang or œsophageal tube; for where the dysphagia is spasmodic, and, possibly, in some cases where permanent stricture has followed a bruise or other cicatrix, and of course in every instance where starvation is imminent, the use of these means is a duty. But where morbid action, as indicated by pain, is still active, and life can yet be kept up by some portion of food being administered, I do not think we are justified in such forcible interference. And when we *are* called upon to rush in, let us tread in fear, remembering the neighbours by which our patient, the œsophagus, is surrounded. A false passage in the urethra is a bungle and an inconvenience; but here it goes into the very fountains of life.

A NEW METHOD FOR THE STUDY OF THE NERVOUS SYSTEM.

By AUGUSTUS WALLER, M.D., F.R.S.

THIS method of study is equally applicable to the anatomical distribution of the nerves, to the functions of the nervous system, and to the diseases of this system, during life and after death.

The process consists in the section of different parts of the nervous system, either of the nerves or of the spinal marrow, so as to interrupt their connexion with the central parts. After having kept the animal operated upon alive, for a period which may vary from one to three or four months, the changes which take place in the peripheric and central parts are determined by the assistance of the microscope.

We know that when the connexion of a spinal nerve with the spinal marrow is interrupted, its elementary parts become disorganised. These experiments have been made on the sciatic nerves of frogs and rabbits. In making the experiments, the preparation of these nerves for microscopic examination presents considerable practical difficulties, on account of the extreme facility with which the soft and pulpy substance, of which the intratubular part of the nerve is composed, loses its transparency and is disaggregated. These difficulties are such, that although an advanced state of disorganisation is easily recognised, it is not the same with merely a slight disorganisation, for the altera-

tion of nerves by their preparation, is often more considerable than that which arises from disorganisation in its early stages.

To avoid all possible chance of error, we must therefore choose a membrane which, while containing very minute nervous ramifications, is sufficiently transparent to be observed under the microscope without further preparation.

Although several membranes, such as the intradigital membrane of the frog, the bladder of the same animal, or that of the mouse, fulfil these conditions, none of them equal the elastic and eminently transparent tongue of the frog. It receives two pairs of nerves: the first, which can be regarded as corresponding to the hypoglossal, is perceived beneath the transparent fibres of the mylohyoid muscle, when the skin is removed from the hyoid region. The second—the glosso-pharyngeal branch of the vagus—is seen through the mucous membrane of the mouth beneath the tongue, when, after opening the jaws, the tongue is drawn from its usual position.

The fungiform papillæ of the tongue contain, as I have already shown, nerve-tubes terminating in free extremities, and so superficial, that they are very readily seen during the life of the animal by distending the tongue. One method of examining these nerves consists in removing a small portion, of about the size of a pin's head, and submitting it to the microscope. It is generally very easy to distinguish the nerve-tubes, and even to count them. But if they are obscured by the vessels or the epithelium, these are easily eliminated by using a drop of caustic potash, which dissolves all the other tissues, leaving the nerves intact.

This organ presents all the necessary conditions for the study of the alterations of the nerves after section, for here the tubes are already spread out without any manipulation, and adapted for microscopic inspection. It is sufficient, after section of the principal trunk at the neck, to remove daily a small piece of the tongue, to follow step by step the progress of disorganisation.

If we divide, for example, a glosso-pharyngeal nerve, leaving the other as a standard of comparison, we see, at the end of four or five days in summer, that the tubes are already altered, and that transverse lines are seen in the intratubular substance, indicating its loss of continuity. At the second period, that is to say, after about ten days in summer, we find that the nerve-tubes only contain round or oblong masses, of a more or less coagulated appearance, as if by the mixture of the two substances of which the intratubular matter is composed. At a third period, this matter is found converted into black granules, possessing chemical properties differing from the normal intratubular substance, inasmuch as they resist the action of acids and alkalies. Henceforth the change which takes place in the nerves only consists in the elimination of these black granules, which is done very slowly in the full-grown frog; for at the end of a year, or more, they are to be seen in great quantities in the interior of tubes otherwise empty.

It is easy to perceive in removing larger portions, that the same change takes place in the larger branches as far as the point of section. *By means of these alterations, we can most exactly determine the course and distribution of the whole nerve*; for in submitting the entire tongue to the action of a weak alkaline solution, so as to dissolve the epithe-

lium, the ramifications of the altered nerve are rendered plainly visible. We then see that sometimes one of the nerves encroaches on the region of the other; and that sometimes even a branch of the left glosso-pharyngeal nerve distributes itself into the right tubercle of the tongue, and *vice versâ*.

We can also distinguish the numerous anastomoses which exist in these nerves on the median line, for normal fibres are constantly found mixed with disorganised ones. No doubt can exist upon the origin of each species of fibre, for each can be easily followed as far as the principal branch. Disorganised fibres are continually found by the side of normal ones, sometimes following the same course, sometimes separating and mixing with each other in all imaginable proportions. In no case is it seen that the proximity of altered fibres affects the structure of normal ones.

To ascertain how the nerve-fibres act in the trunk, I cut a glosso-pharyngeal nerve half through at the neck. In examining the papillæ of the same side, I perceived that they contained fibres entirely disorganised, and sometimes fibres of each kind, in different proportions. We see, therefore, evidently, that in the trunk of the nerve in question, the fibres do not always occupy the same place, but that, in their course, there is the same mixture as in a plexus. If we cut one glosso-pharyngeal nerve, and then the other, after an interval of any duration between the two sections, we find that each nerve goes through the various stages of disorganisation totally unaffected by, and independently of, the other.

The alterations which are thus produced in the nerve-tubes are so invariable, and so readily distinguished, that one can, by inverting the problem, pronounce, by microscopic inspection of the tongue, not only which are the divided nerves, but also determine, *cæteris paribus*, the exact period of the section.

CENTRAL PORTION. While these numerous and characteristic changes take place in the inferior end, the superior end, on the contrary, which is in connexion with the central parts, preserves its normal structure. In a frog, whose glosso-pharyngeal nerve has been divided, it is found at the end of two months; the inferior portion only presents tubes full of black granules, while those of the central part are unaltered. At the end of six months, and even of a year, I have seen the same difference, that is to say, that the central end is in the normal state, while the peripheric part is disorganized.

REPRODUCTION OF NERVES. Since the experiments of Fontana upon the production of nerve-tubes in the cicatrix which unites the two ends of a divided nerve, and notwithstanding the numerous observations made by Schwan, Steinruch, Müller, Günther, Schon, and others, it does not appear to me that the question of the reproduction of nerves has made any essential progress. Fontana has observed that the two ends are reunited by tubes of new formation; and his observations are indubitably correct. It is important to remember that all the discussions which have taken place respecting the reproduction and the regeneration of nerves, have been only with regard to the regeneration of the tubes in the cicatrix. All observers, influenced perhaps by what passes in other tissues, have confined themselves to the examination of the tubes in the cicatrix, disregarding those of the peripheric ends.

It is, however, in this part that we find the key to answer all the questions concerning the reproduction of the nervous substance, and the discussions upon the reunion of motor and sensitive fibres at one end of the cicatrix, with those of the same denomination at the other. My experiments have given me the result, *that the old fibres of a divided nerve never recover their original functions*; and that the reproduction of a nerve is not only made in the cicatrix itself, but as far as the terminal ramifications.

To be satisfied of this fundamental fact, the ramifications of the glosso-pharyngeal nerve must be examined about three or four months after section. Almost all the fungiform papillæ will be found, *if there is reunion*, to contain tubes in the third degree of alteration; there is only rarely to be seen a fibre of new formation, which it is impossible to confound with disorganised fibres, or with normal fibres from another source. The new fibres present the following characteristics: they are very pale and transparent, have no double outline; their diameter is very unequal, sometimes very minute, sometimes swollen or varicose, like the fibres of the spinal marrow; their size is about the fourth part of the nerve-tube of a full-grown frog. By means of these appearances they are readily distinguished from the normal and the old disorganised tubes; but if they are compared with the nerve-tubes of the fungiform papillæ of the young frog, when the tongue makes its first appearance after the tadpole state, it is seen that they are precisely alike. According as we ascend from the papillary nerve to the more voluminous branches, these new fibres become more and more abundant, presenting always the same characteristics, and occupying the same situation: that is to say, they are interposed between the old fibres, which still possess a tubular membrane containing black granules. In all my researches on this point, I have never seen a new fibre in the interior of an old tube.

Before reunion takes place, or any new fibres exist in the cicatrix, none are to be seen amongst the disorganised fibres. At the end of nine months, I have found new fibres in almost all the fungiform papillæ, always presenting the same characteristics as above described; and I have never seen regenerated fibres, either in the frog or dog, attain the size, the regular diameter, or the well-defined double outline of the old fibres.

The intermediate portion which unites the two divided ends, is composed of tubes whose diameter is only the fourth part of those of which the central portion is composed. In the mammifera, by reason of the hardness of the cicatrix which unites the two ends, and of the quantity of fibrous tissue which exists there, it is impossible to isolate the nervous fibres; but in the frog they are completely isolated from the surrounding tissues, and it is easy to separate the nerve so as to have all the newly-formed part with a portion of each end. Examined with the microscope, the upper portion is seen to be in a perfectly normal condition. A sudden contraction marks, to the naked eye, the termination of the central part. Under the microscope, the difference between the old and new tubes is not less marked; for while the old tubes measure about $\frac{1}{5,000}$ of an inch, the new ones are only the $\frac{1}{15,000}$. The new tubes do not shew any difference until they attain the lower end, where the distinction is more marked than at the superior end, the

disorganised fibres of the peripheric end being seen here to join the new tubes.

INFLUENCE OF AGE. In the preceding experiments, I have always used animals in a state of maturity. If, on the contrary, the experiments are made upon the young frog, we find a considerable difference in the period of disorganisation, and in its appearance. In summer, in a young animal weighing fourteen grains, I have, in three days, found disorganisation very evident in the papillæ; while, in a full-grown frog, a similar alteration requires five or six days to be effected. At the period of the second degree of disorganisation, we find already numerous granules, of various dimensions, mixed with transparent intratubular matter. At the third degree of alteration, we find that the granular matter is much more fine, and less opaque, than at maturity. At the end of twenty or thirty days, these granules are more or less removed. The regeneration of the nerves, which takes place very rapidly on the young animal, does not appear to meet with such difficulties as with the full-grown frog, and the restoration of the nervous influence is also much more complete.

THE INFLUENCE OF TEMPERATURE is very considerable on the alteration of the nerves of the frog. In the months of May, June, and July, disorganisation of the first degree is to be seen at the end of four or five days; but in winter, for the same vital action to be accomplished, it requires from ten to twenty days. In this respect, these phenomena are perfectly in unison with all the other phenomena of nutrition in these cold-blooded animals, as M. Milne Edwards has shewn in his work upon the physical phenomena of life. The advantage which the nerve-tubes present to us, is very manifest by their offering visible and circumscribed characteristics; while experiments upon the greater or less activity of respiration, require special and technical knowledge rarely in the domain of the physiologist. The other vital phenomena, such as the cicatrisation of wounds, present also the same differences on the frog, according as they are made in summer or winter; but they afford us, still less than respiration, means of measurement and of exact appreciation.

EFFECTS OF ELECTRICITY ON THE DISORGANISATION OF THE NERVES. To ascertain if electricity could supply the want of the influence of the central organs, after division of a nerve, I cut the two sciatic nerves of a full-grown frog. The right leg was galvanised for several minutes nearly every day, by applying one of the poles of a rotatory apparatus to the intradigital membrane, while the other touched the upper part of the thigh. Fifteen days after section, the right sciatic nerve was uncovered and galvanised, without causing any muscular contraction. Twenty-five days after section, the nerves in the intradigital membrane were examined on each side, at the same time, in order to be able to compare them. The nerves on both sides were disorganised; the intratubular substance in each was converted into globular masses, mixed with black granules. There was not the slightest difference between the nerves of the two sides. It appeared, therefore, evident to me that neither galvanism, nor the artificial exercise of the limb which it causes, influenced, in any degree, the nutrition of the nerves.

EFFECTS OF SECTION OF THE SPINAL MARROW. Inspection of the

nerve-tubes, after crushing or dividing the spine, allows us to resolve several interesting questions. The vertebral column was uncovered, and its middle part crushed immediately below the brachial nerves, as was afterwards ascertained. Strong reflex actions were obtained by pinching the skin of the thighs. This animal was kept for six months, always exhibiting very lively movements when the skin was touched, except the day before its death. Twenty-four hours after death, the nerves of the skin of the thighs were carefully examined, the skin of the upper part of the body serving for a means of comparison. I could not find any difference between the nerve-tubes of the skin on the paralysed side, and those of the other. In making these experiments, we are enabled to limit exactly the extent of the paralysed part; for in irritating the skin at different heights, we find that, after section, or crushing the spine, there exists a very distinct region, or zone, round the body, generally about a line in breadth, where mechanical irritation neither produces pain nor reflex action. This neutral line is very constant, and is observed as soon as the animal recovers from the effects of the ether, and remains the same during life. After the section of the spinal marrow, immediately below the brachial nerves, the neutral line forms an almost circular zone. In limiting this line by puncture, we thus obtain the bounds of sensibility and reflex action. An attentive examination has not enabled me to perceive any disorganisation in the tubes of the parts above or below this neutral line; but if the spinal marrow is divided above the eighth vertebra, so as to obtuse sensibility and reflex action at the same time, a different effect is produced, and we find then an evident disorganisation of the nerves of the skin and the lower limbs.

The spinal marrow of a frog was completely destroyed at the level of the sixth and seventh vertebræ: a complete paralysis, without reflex action, was the result. At the same time, the right sciatic and brachial nerves of the same side were divided, and a portion removed. At the end of six months the limbs were in the same condition. The wound at the thigh was not yet cicatrised; that of the arm was completely so. The ends of the divided sciatic were separated by an interval of several lines; there existed no sign of regeneration of the part removed. The extremity of the upper end was red and tumid; the inferior extremity formed a slender cone, which contrasted by its paleness with the opaque whiteness of the rest of the nerve. The lower end of the divided sciatic was quite in the black granular state, which was the case with the most minute ramifications of the nerves of the leg and of the intradigital membrane. The muscular fibres of the same side, compared with those of the other leg, were more pale, with less distinct striæ, and finely granulated. The central arch, or part of the same nerve, contained disorganised tubes; in some, the intratubular substance was granulated; in others, it was only in the second degree; while in others it was transparent, and with a double outline. The sciatic nerve of the left side was still less disorganised than the two above mentioned parts. In almost all the tubes the tubular substance was only disjointed; the brachial nerve, at its upper part, was not altered; the lower part was in the same state as the lower part of the right sciatic. Other frogs were operated upon at the same time, in the same way, and have given similar results.

When the section is made immediately above the origin of the brachial, the nerves of the skin of the arm are all in the normal state.

The result of the foregoing facts is, that no system of nerve-fibres can be isolated by the section of the spinal marrow, and that reflex action may be regarded as indicating that all the nerves of a segment of the spinal marrow, isolated from the brain, are in a condition to resume their functions, if the influence of the will be reestablished. On the contrary, when the section is below the limit of the reflex power, we observe that disorganisation takes place with a rapidity, greater in proportion as the segment of the spinal marrow which remains is less. The existence in this case of the same state of disorganisation in all the nerves which proceed from the isolated portion of the spinal marrow, indicates the marked difference between this and a nerve. The experiments correspond in this respect with those of Van Dien, and incline us to attribute to the grey fibres the power of connecting the medullary nerve-tubes, the effect of which is to produce on all parts of the segment a state of equal polarity, the power of which is evident in the degree of alteration in the peripheric nerves.

The process of section of the spinal marrow, and the observation of the nerves, offer us a fruitful subject for research. By the formation of segments more or less extensive, we may probably be enlightened upon the existence of nervous centres, more or less limited to different points of the spinal marrow, similar to that discovered by the experiments of M. Flourens, which have limited in so distinct a manner the vital region.

SECTION OF THE ROOTS OF THE SPINAL NERVES. By means of the experiments of Müller, we have the true demonstration of Sir Charles Bell's discovery. The degeneration of the nerves furnishes us with additional proof, which is not without interest. If we cut the three posterior roots of the nerves of one of the extremities, the animal generally lives in winter for an indefinite period. In a frog, which had survived this operation six weeks, I found all the nerves of the skin on the right side at the second degree of alteration. At the same time, the animal presented the same symptoms as at the first day of the experiment, *i.e.* complete paralysis of sensation in the right leg, with the motor power so perfect, that I could not perceive, without very attentive observation, on which side the paralysis of sensation existed. The nerve-tubes in the muscles were all normal; and I could not see, in their ultimate ramifications, any appearance of disorganisation. The muscular nerves of the limbs are much more difficult to examine than the nervo-muscular branches of the tongue; but observation has, nevertheless, induced me not to admit the existence of nervous ramifications proceeding from the posterior roots in the muscles. In the branches of a higher order, it was easy to perceive disorganised fibres. Galvanism of the two sciatic nerves gave proof of an equal muscular action of the two sides.¹

¹ Since writing the above, I have had occasion to examine more fully the influence of ganglia on the nutrition of the fibres which traverse them, and find, that after division of the posterior root of a spinal nerve, the fibres extending from the ganglion to the peripheries never become disorganised. I shall communicate my researches on this point on a subsequent occasion.

Section of the anterior roots of the same part furnishes us with equally clear results. After this section, we observe, as Müller describes, entire paralysis of movement, with retention of sensibility; but, at the end of two or three days, sensibility becomes so obtuse, that it is difficult to discover. In this respect, the two roots present an important difference. The cause of this phenomenon is still unexplained. In examining the sciatic nerve, some days after section, a considerable diminution of muscular action is found, when compared with that of the opposite limb. Notwithstanding the almost entire loss of sensibility, we do not find that the ramifications in the skin are altered, while those in the muscles are in the second degree, and that the reticular ramifications of the nerves of the anterior part of the tongue, and especially in the tubercles of the tongue, are altered exactly in the same manner, and in the same degree, as the cuticular nerves.

Section of the two hypoglossal nerves is followed at the end of some days by death; this is more rare after the section of the glosso-pharyngeal. To divide both these last with safety, it is necessary to resort to the same means as for the former; that is to say, to wait until one nerve is cicatrised, and its functions partly re-established, before dividing the other. In this way, we can obtain complete disorganisation of the two hypoglossal nerves.

On an animal thus operated upon, I found all the muscular and superficial ramifications of the inferior surface of the tongue in a granular state. These results, which I had already obtained in 1849, in all their essential points, have been since repeated with similar results. In studying the functions of these nerves more precisely than formerly, by means of galvanism, these results are fully confirmed. When an undivided glosso-pharyngeal nerve is galvanised, on an etherised frog, a contraction is obtained, which is often limited to one side of the tongue. On a non-etherised frog, galvanism produces a general contraction of all the muscles of the lower jaw and of the chest, often a violent snapping, and even an effort resembling the action of vomiting. These contractions are derived from a reflex action; for, in dividing this nerve towards its upper end, the same phenomena are always obtained.

My observations, however, upon the alterations resulting from division of the anterior roots, are not so positive as those of the posterior pairs; on account of the difficulty of examining the ramifications of the nerves in these parts, and of the greater mortality of the animals operated upon.

ON SECTION OF NERVES AS A MEANS OF STUDYING THEIR ANATOMICAL DISTRIBUTION. If it were possible, by means of a chemical process, to distinguish the sensitive and motor nerves, so as to dye one set of them black throughout all their course, while the others retained their natural whiteness, there is no doubt it would be very important for anatomy; and these nerves, thus changed, would be immediately pursued throughout all the tissues of the economy. Let us apply section to the glosso-pharyngeal and to the hypoglossal nerves of the frog, and afterwards to the nerves of the superior animals; but, previously to so doing, it will be advisable to give a short account of the normal anatomy of the tongue in the frog, and in the mammifera.

OUTLINE OF THE NORMAL ANATOMY OF THE TONGUE OF THE FROG, AND OF THE MAMMIFERA. Without any previous preparation, by simple inspection with the naked eye, it is easy to perceive the great resemblance between the two kinds of papillæ of the frog's tongue, and those of the human tongue. This analogy is confirmed by a closer acquaintance with their structure. If a piece of a frog's tongue is allowed to macerate for one or two days in a saturated solution of arsenious acid, we see the epithelium become converted into a gelatinous matter, which leaves the membrane beneath exposed to view. The fungiform papilla is composed of a nerve terminating in free extremities, surrounded with blood-vessels and striated muscular fibres, which ramify like the branches of a tree. The finest branches of muscular fibre do not exceed the $\frac{1}{4,000}$ of an inch in diameter, and are united to the epithelial cells. Professor Kölliker, who has been the first to describe this structure of striated muscular fibre of the frog's tongue, represents it as terminating under the epithelium, beneath the *glands of the tongue*. Without remarking upon the inexactitude of applying the name of glands to these organs, of which they have neither the structure nor the functions, I will only observe, that the learned professor of Wurzburg is in error, when he states that the muscular fibres terminate between the papillæ. In the fungiform papillæ, nothing is more easy than to assure oneself of the contrary, after the removal of the layer of epithelium by means of arsenious acid. We then see that muscular fibres are distributed in opposite directions, at an angle of at least 190, so as to form a complete network around the nerves and blood-vessels, and which reach the summit of the papillæ. As soon as the muscular fibres enter the papillæ, they divide into branches, which, again subdividing two or three times, spread out into exceedingly fine fibres, at the sides of the papillæ, immediately in contact with the epithelium. The conical papillæ rarely contain muscular branches, but almost always elastic fibres, besides a spiral filament, which traverses the axis of the cone from the base to the summit. After they are thus deprived of their sheath of epithelium, it is almost impossible to distinguish them from the simple papillæ of man or other mammifera.

It is worthy of notice, that amongst all the reptiles I have examined, the nerves of the fungiform papillæ in the frog are the most developed, and the most numerous. In placing these reptiles according to their position in this respect, we find, first, the frog, then the toad, the uromastic, and lastly the salamander. In a full-grown toad, the nerves of the fungiform papillæ are not more developed than a half-grown frog. In the uromastic, the fungiform papillæ, with the exception of their less degree of development, present the same characteristics as those of the frog. The salamander, which is lowest in the scale, has upon the tongue globular bodies, which may be regarded as fungiform papillæ; but they contain neither nerves nor blood-vessels, and are not more advanced in their structure than those of the tadpole, three or four days after the appearance of the tongue. It is evident that the same gradation exists with regard to the mobility of the tongue in the above-mentioned animals. The nerve of taste is, therefore, developed in proportion with the degree of motor power.

The extremity of the club of the tongue of the chameleon has no

papillæ, but presents upon its surface a series of rectilineal elevations and depressions, in which I have not been able to discover any nerves.

In the forked tongues of serpents, no papillæ are to be seen, neither on the tongue nor on the vascular membrane of the gullet.

The best type for studying the forked tongue of reptiles, is that of the *acanthus dactylus scutulatus*. In this little lizard, this organ is admirably disposed for microscopic observation. It is to be regretted that its rarity should render it so difficult of access for the microscopist. No animal membrane which I have had occasion to observe, seems to offer, by its transparency, and the variety of organic tissues, nerves, blood-vessels, muscles, epithelium, etc., such a combination of advantages. The employment of ether, as with the frog, would doubtless permit of its examination during life.

The tongue of the mammifera presents very slight anatomical differences in the various animals. We find in all fungiform and compound conical papillæ, mixed with others of a simple nature, which are concealed beneath the epithelium. The greatest differences which exist are exterior, and are confined to the sheath which covers the summit of the conical papillæ, which is sometimes soft, as in the tongue of man, and sometimes hard and sharp, as in beasts of prey.

To study the nerves of the papillæ, and of the mucous membrane, I make use, as with the frog, of strong caustic potash, of which one or two drops dissolve the other tissues before the nerves, which are last attacked. Last winter, I macerated large fragments of sheep's tongue in pure water, in which was a cylinder of phosphorus. By this means, the nervous ramifications could be easily traced by the naked eye, as far as their entrance into the fungiform papillæ. Oxalic acid in solution, is one of the best agents in the study of the nerves. By its use, at the end of one or two weeks, the epithelium is converted into a pulpy mass, which detaches itself easily from the papillæ. The nerves retain their natural transparency. With a thin slice of the tongue of a sheep, and the employment of potash a little weakened, we see the muscular fibres reunited into bundles of four or eight, surrounded by a very delicate cellular sheath, ascending to the lower part of the mucous membrane, where, before entering into the chorion, they cease abruptly, giving place to a fibrous tissue, which spreads out into diverging filaments above the muscular termination. By the interlacing of these tendinous fibres in every direction, the chorion of the tongue is formed. In the piliform or conical papillæ, these fibres reach to the summits of the secondary papillæ, and interlace with each other. In the fungiform papillæ they take an oblique direction from opposite points, and traverse the chorion at the base of these papillæ. I have never been able to follow the muscular fibre into the interior of the fungiform papillæ. The fibrous tissue is the continuation of the sheath of the bundles of muscular fibre. Its filaments penetrate into the secondary papillæ.

The papillary nerves exhibit a great difference, according to the kind of papilla. In the fungiform papillæ, the nerve is very voluminous, and contains about twenty or thirty tubes, which are surrounded by the fibrous sheath passing from the base into the secondary papilla. To examine the termination of the nerves in the fungiform papillæ, one of these papillæ must be removed from a very fresh tongue, and

submitted to the action of the alkali, under the microscope. If the papilla is not too much obscured by the black pigment which is deposited generally in the centre of these papillæ, it is very easy to perceive numerous tubes with free extremities, spreading out towards the secondary papillæ, of which they reach the base, or half their height. Thin slices of the human tongue give us the same results as that of the sheep, except that the chorion is not so thick; but the fibro-elastic tissue is always found to succeed abruptly to the muscular tissue, of which the fibres ascend towards the surface in every direction, to attach themselves in the manner described.

The size, and in general the opacity, of the papillæ of the sheep's tongue, are obstacles to the examination of the nerves—difficulties still greater in that of the horse and the ruminantia. In animals of a smaller size, their minuteness presents difficulties in separating a fungiform papilla from the adjacent ones. The human tongue offers them to us under the most favourable circumstances; but the disorganisation of these nerves after death has induced me to examine them from the living tongue. This little operation, which I have frequently performed upon myself and several other persons, is done almost without pain, with very sharp scissors. The little globular head, thus obtained by the observer, and possessing still in some degree the vital power, contains arteries and veins, nerves, fibro-elastic tissue, blood still in motion, and epithelium, which covers the whole surface. By the addition of water, the papilla becomes sufficiently transparent to witness the movement of the blood in the capillaries, which is partly caused by the contraction of the vessels, and the external compression of the papilla, and also, probably, from absorption of the water into the interior of the vessels. This movement lasts sometimes two or three minutes, until the vessels are emptied, or the blood coagulates. The capillaries form more or less intimate loops at the summit of each secondary papilla. All the vessels communicate together at the base of the secondary papillæ, where they unite with the arterial and venous branches. It often happens that, without any preparation, the nerve-tubes are to be seen, going from the central parts of the papilla towards the summits of the secondary ones; but, in the greatest number of cases, the employment of alkali is necessary to show them clearly. We then find that these tubes terminate, precisely as in the frog, in free extremities, which are often considerably dilated; and, in the centre of this species of nervous spongiole, we find a black spot, corresponding to the axis cylinder.

The removal of the conical papillæ may be made in the same manner; but the vessels and nerves are much less distinct, on account of the long sheaths of epithelium which cover each secondary cone, forming a considerable prolongation, and being about two-thirds of the length of the cone. Each of these papillary processes is composed of layers of epithelium, very distinct at their point of insertion on the papilla, but near the apex the sheath becomes more hard, and even horny. In the normal state, this is covered with a thick crust of granular matter, which is easily detached after death, which accounts for its not being described by physiologists, who have only examined these papillæ after death.

If, instead of making the section, we place a ligature round a fungi-

form papilla, a rather sharp sensation of pain is felt, much greater than that felt by cutting. This soon ceases, and the only sensation which remains is that of having a foreign body on the tongue. At the end of the third day, I generally experienced a hot and diffuse pain; and a few hours afterwards the papilla was detached, and a little conical stump left, which at the end of a week seemed to have attained its usual size. In this experiment, no subjective sensation of taste is felt, as happens with the irritation of other special nerves. I have repeated this experiment upon people of different constitutions. One of the subjects was a young man of a lymphatic and scrofulous temperament, with very feeble circulation, upon whom the slightest wounds healed with great difficulty. The sensations he described exactly corresponded with the above-described, and the papilla separated at the fourth day. The separated papilla contains no blood-globules, only some portions of nerves are visible.

The examination of the papillæ of the dog, cat, rabbit, hare, rat, mouse, guinea-pig, pig, hedgehog, and squirrel, during life, under the influence of chloroform, or after death, has given me the same results as the human papillæ. The differences are limited to the structure of the *papillary processes*, which I will not describe here. In the last-mentioned animals, where the papillæ are very small, in removing a portion of the membrane by means of potash, a network of nerves is seen, which sends off ascending branches to the papillæ. In every instance, the same superiority in size of the nerves of the fungiform papillæ existed. In none of the mammifera have I been able to discover any striated muscular fibres in the papillæ. In the tongue of the rabbit, I have seen fibres, which resembled muscular fibres, penetrating into the papillæ; but I have never met with any striated fibres. I think it very possible that in the tongue of the giraffe or the ant-eater they might be present, as these animal possess similar elastic tongues to the frog.

With respect to the distribution of the nerves of the tongue of the mammifera, there remains to determine the exact distribution of the three nerves which enter it. For, although the discoveries of Sir C. Bell have thrown a great light upon the functions of each of these nerves, it is impossible by the usual means to be certain if the hypoglossal gives off fibres to the papillæ, and what is the exact distribution of the lingual and of the glosso-pharyngeal. By means of the section of these nerves, this question is at once decided.

The right lingual nerve of a dog was divided, and a portion removed the 10th Dec. 1850, and the animal died the 2nd Feb. 1851, in convulsions. After the section of the nerve, complete paralysis of sensation of the same side was observed; the tongue moved as usual, but in lapping he lost a great quantity of the liquid. At the end of three days, the tongue was lacerated on the side of the section by the teeth, and the surrounding vessels ingested. Eight days after section, a small portion of the tongue was removed from the right side and the left. The nervous network in the mucous membrane on the right side was quite disorganised, and in the granular state, while on the left the nerves were normal. After death, the tongue was found to measure, from the point to the root, $3\frac{1}{4}$ inches. The nervous ramifications in the mucous membrane, and in the fungiform papillæ, had almost entirely

disappeared over a portion measuring two inches from the tip of the tongue, where there only remained very feeble traces, containing a few very fine black granules. Beyond this limit, the nervous ramifications and the nerves of the papillæ were all in a normal condition, but were much less numerous in comparison with those of the anterior part; and at $2\frac{1}{2}$ inches backwards, the papillæ were either simple, or much less covered with secondary cones than those at the anterior part of the tongue. All the nerves in these papillæ were normal. On the median line, as in the frog, the intermixture of the fibres of the two lingual nerves was to be seen. On the left side, all the nerve-tubes of the mucous membrane and papillæ were normal, from the tip to the root. At $2\frac{1}{4}$ inches backwards from the tip, the two sides of the tongue were compared together, and presented no difference as to the number and appearance of the tubes. The divided ends of the nerve were recruited by a membrane of cellular appearance. The peripheric parts of the divided nerve were atrophied, in comparison with that of the left side, and the contents consisted of black granules. All the ramifications of this nerve which could be followed, were found in the same state. The central part was not examined. On the left side, the lingual nerve was normal.

Section of the right hypoglossal nerve was made on a dog, while under the influence of chloroform. For several hours after the operation, he gaped constantly. His tongue turned towards the left, and the animal had great difficulty in swallowing. Sometimes he bit his tongue, and cried with the pain; but it never became ulcerated. When the tongue was pinched, the right anterior part remained flaccid, and presented only a tremulous movement, caused, probably, by the muscular fibres coming from the other side. At the end of some days, deglutition was much more easy, although the right side remained paralysed. At the end of twenty days, there was nothing extraordinary to be remarked; the functions of the right side were nearly reestablished, but the right side was atrophied. At the twenty-fifth day, the dog appeared agitated, and walked round and round *en manège*. He continued this movement in spite of all obstacles which were placed in his way: a pan of water, for example, was placed in the circle, and he walked over it without altering his course. After continuing two days in this condition, he became more and more weak, and died in convulsions. Microscopic examination of the papillæ and mucous membrane of the left side shewed the nerves to be all in the normal state; but when the subcutaneous muscular layer was examined, the great alteration of all the tissues of the right side was very apparent. The smaller musculo-nervous ramifications, consisting of two, three, or four tubes, had almost disappeared, and were very difficult to follow; but the disorganised nerves in the larger branches were traced easily, by means of their black granules. The muscular fibres on the same side were also disorganised, almost all without striæ, and transparent, but finely granulated, and their size much less. The nuclei of these fibres were more elongated, and much less distinct, than on the other side. In some sections, considerable *non-muscular* nervous branches were found.

The cicatrix between the divided ends presented new fibres, of which traces were to be seen in the small branches, but none in the ultimate ramifications. The central end was normal. After the preparation

had been kept several days, decomposition had altered the muscular parts of the right side, while on the other side they were unaltered. Finally, the right side became putrefied, green, and very soft, while the other was red, and its microscopic structure almost unchanged. This experiment has been often repeated with the same results.

The difference in the phenomena of putrefaction, which is observed between the tissues disorganised by section of the nerves, appears to me to be an invariable result; and already, as a general rule, we may say, that at the end of some days after section of the lingual nerve, the sheath of the papilla is separated on the side of the section, and only on the anterior parts of the tongue which receive the branches of the lingual. After section of the hypoglossal, putrefaction begins sooner in the paralysed muscles. The theory of the phenomena of nutrition of the animal body seems likely to me to receive considerable light from these facts, and already we can perceive the close relation between the destruction of the tissues during life and after death.

To examine more correctly the state of the blood-vessels after section of the nerves, I caused the tongues of dogs and rabbits to be injected. One of these was the tongue of a young dog, of six or eight months, whose left hypoglossal and lingual nerves had been divided on the 10th August, 1850. The animal was killed the 10th October following. After the injection, the papillary sheaths detached themselves as usual, much more easily on the left side. The fungiform papillæ on this side were much atrophied and almost invisible, the conical papillæ were very little altered or atrophied. On the left side, the vessels in the fungiform papillæ were much less numerous, and were smaller than on the right side, where they formed a rich network of loops and knots, anastomosing frequently, while those on the left side formed only simple loops, communicating only at the base of the fungiform papillæ without any coils. It appeared to me, therefore, that after the loss of the sensitive and motor functions the current in the vessels was slower and more feeble, the result of which was to obliterate the numerous capillary coils and the anastomosing branches, leaving only a feeble current in the principal trunks. In the muscles, the vascular alterations were not less evident. On the paralysed side, the capillaries were much less abundant, with fewer coils, and usually smaller than on the other; the little arteries and veins were also more irregular. Thus, instead of finding the gradual diminution of diameter as on the healthy side, a large vessel was seen to be suddenly contracted to the size of a capillary. In the venous portion also, the capillaries terminated in a kind of sinus, instead of the gradually increasing branches, as in the normal state. In several parts, the capillaries and the afferent and efferent vessels appeared to have a foreign deposit in their internal parietes, probably of a fibrinous nature, which caused rugosities and obstructions internally. After injection, nerves could no longer be discerned in the papillæ, even on the healthy side; but at the peripheric end of the divided trunks, the tubes were generally in the black granular condition, even as far as the smallest ramifications. The two nerves were found to be in exactly the same degree of alteration at their peripheric ends; their central part was in the normal state.

PNEUMOGASTRIC AND SYMPATHETIC NERVES. The important functions of these nerves govern in a degree animal physiology. The examination of these appeared to me capable of receiving much light by means of the alterations consequent upon its section at various points. I was anxious to ascertain if these nerves, so different from all the others of the animal economy, would exhibit similar alterations, or if they would take place in the same manner, and also if they would occur as rapidly as in the other nerves. The following experiment replies to most of these questions.

The hypoglossal, lingual, pneumogastric, and sympathetic nerves of a young cat were divided September 28, 1850, under the influence of chloroform. The cervical sympathetic was divided between two ligatures tied on the vagus nerve and the carotid artery of the right side. The pupil instantly contracted considerably on the same side, the eye turned inwards, and the nictitant membrane covered a considerable portion of the eye. The animal was killed with prussic acid October 29, 1850.

On examination, the right pneumogastric was redder, more transparent, and less pearly than on the left side. Under the microscope the tubes were very indistinct, and those most distinct were filled with black granules; followed into the chest, they were found to be in the same state as at the neck, with the exception of a few normal tubes, which traversed the disorganised ones, evidently being derived from a source below the point of section. The branch of the pneumogastric, going towards the last cervical ganglion, was examined as far as the ganglion, and its filaments were found to be disorganised in the same manner as the rest of the trunk. The two other branches of the ganglion, which go off to the middle cervical ganglion and to the cervical nerves, appeared to be in the normal state.

The upper end of the sympathetic cord, that which was joined to the upper ganglion, was quite disorganised, presenting fusiform masses of black granules, amongst which were a few quite normal tubes. On the opposite side, the nerve which proceeded from the ganglion presented the usual structure of tubes of different diameters. The upper branch of the first ganglion was normal, as were the ganglion-globules. The peripheric parts of the lingual and hypoglossal nerves were in the condition of black granules. Their central parts were healthy.

We conclude from this experiment,—1. That the tubes of the sensitive nerves (lingual), motor (hypoglossal), mixed (vagus), and ganglionic (sympathetic), are all disorganised in the same manner and with the same rapidity. If we admit the existence of a nervous fluid, we must conclude that it does not influence, or, at least, influences in a very slight degree, the phenomena of absorption. 2. The unaltered condition of the ganglion-globules permits us to draw a very clear line of demarcation between these nervous elements and the nervous tubular matter. I have found the same effect take place with the spinal ganglions of the posterior roots; for when, after section, the nerves are altered, the ganglion-globules remain quite sound. 3. The disorganised state of the branch, between the pneumo-gastric and the last cervical ganglion, indicates very decidedly that the generally received opinion respecting the course of this nervous branch, is the correct one, and that it does not come from the ganglion. I was unable

to recognise any of its tubes on the other side of the ganglion amongst the branches between the cervical pairs and the middle cervical ganglion, all the tubes there being perfectly sound.

My researches upon other parts of the sympathetic have not produced any result, on account of the death of the animals. These have consisted in cutting the lumbar spinal marrow of dogs and rabbits, in the hope of being able to examine the branches of the sympathetic at the lower end, and which required the lapse of a month, or more, after section, to ascertain their condition. In the cat especially, it would be important to be able to examine the disorganisation of the nerves which enter into the Pacinian bodies. I propose to carry out these investigations without delay; the results I shall have the honour to communicate to the Academy.

In concluding, I must say, that three years' labour upon the section of nerves has convinced me that their examination by this means will exert great influence upon the progress of anatomy, in causing us to leave the field of hypothesis, and to decide without hesitation upon the source of each filament whose origin is doubtful. For physiology, it has already been the means of bringing numerous facts to light, and will no doubt furnish many more. It allows us to judge, without danger of being deceived, upon the source of the numerous branches of which a nerve is composed; and it is remarkable, that its indications become more clear and distinct in proportion as the part to be recognised is in less quantity; for when a nerve is reduced to the granular state, if fibres from another source join it, its fibres can be followed for a considerable distance one by one, which would be impossible in a collection of normal fibres, on account of the plexiform manner in which they twist round each other. To speak more exactly, it is easy to distinguish a sound nerve-tube, with double outlines, amongst a hundred or more disorganised ones. It is the *methode isolatrice* of Flourens carried to its highest degree, of which the section of the vagus nerve at the neck is sufficient for proof. Like the thread of Ariadne, it conducts us to the unravelment of all the different complicated anastomoses of the nerves of the head, and will demonstrate exactly the influence of the ganglions upon the nerves which traverse them, or lose themselves within them, as we have seen with the vagus nerve in the last cervical ganglion. Henceforth, the examination of no nerve will be complete, until it has been studied by sections made at different heights. This method, applied to the vagus nerve, will allow us, as I have done upon the two glosso-pharyngeals of the frog, to isolate completely all its fibres from those of the sympathetic. For section of these two nerves at different periods admits of keeping the animal alive, without injury to the distinctive characteristics of the disorganised tubes. It would be superfluous to describe the divers applications of this process to the other nerves of the body. It would be of great use to comparative anatomy, when applied to all invertebrate animals for the study of the nerves, and to distinguish the true nervous centres.

My experiments on the central parts of the nervous system have not yet given me any positive results. Three months after division of the lumbar spinal marrow of a frog, I could see no alteration of the tubular and globular matter; but, if we simply consider the reunion of

wounds of the spinal marrow on the frog, and the researches set forth in the celebrated pages of the *Recherches Experimentales sur le Système Nerveux*, we shall see the analogy which exists in the mammifera, between the reunion of these parts and that of the peripheric portions of the nervous system, both with respect to the period of reunion, and to the return of their functions, to be too great to allow of our rejecting the possibility of the same law being applicable to both.

The first application to pathology of section of nerves, will probably be the examination of the lingual papillæ in cases of paralysis of the lingual nerve, or of the upper part of the fifth pair. To avoid error, it will be sufficient, as in my experiments, to compare the diseased with the healthy side. The advantage which the physician will derive in such a case for diagnosis and treatment, is too immediate to admit of hesitation in performing this little operation. The application of the microscope to the study of the nerves, in cases of paralysis of other parts of the body, although not feasible during life, will be of use as a touchstone in obscure cases of diagnosis, and will give us a means, as in the foregoing experiments, to classify nervous diseases into—nervous diseases with and without alteration of structure. For the preservation of the portions removed, the precaution of keeping them at a temperature of 0° *centigrade*, which admits of their being kept for an indefinite period, is the most effectual.

The foregoing paper was addressed to the Academy of Sciences of Paris; and an extract from it was published in the *Comptes Rendus*, Dec. 1st, 1851. The observations and experiments which it contains were commenced in 1849, and form a continuation of a paper communicated by me to the Royal Society, on the section of the glosso-pharyngeal and hypoglossal nerves of the frog, inserted in the *Philosophical Transactions*, Part II, 1850, when I first employed the alterations consequent on the disorganisation of a divided nerve, as a means to trace its anatomical course and distribution. The section of the lingual and hypoglossal nerves in the mammifera, is but a continuation of the same mode of investigation.

In March 1850, when I went over the experiments on the frog with Dr. Sharpey, I demonstrated to him, at the same time, the effects of section of the lingual nerve in the dog, on the nerves of the papillæ fungiformes, and on the ramifications in the mucous membrane of the dorsum of the tongue. Shortly after, I repeated the same experiments before Mr. Quekett. In May 1850, I addressed an application to the Royal Society (Committee of Russell Fund), in which I described briefly some of my observations on the mammifera, and mentioned the importance of applying my new method of investigating the course and distribution of the nerves throughout the whole system.

In addition to my thanks to the two above mentioned gentlemen, who were kind enough to witness my experiments, and to express much interest in them, I take this opportunity of acknowledging the kindness of Professors Owen, Carpenter, and Wheatstone, who were all made acquainted with the nature of my researches. I am also much indebted to Mr. Hett, whose excellent injected preparations are so well known, for the care with which he injected various subjects for me, especially the tongues of some animals whose nerves had been divided, and had become disorganised.

AN INQUIRY INTO THE *MODUS OPERANDI* OF THERAPEUTIC AGENTS UPON THE HUMAN FRAME.

By R. HUTCHINSON POWELL, M.D.Lond., etc.

(Concluded from p. 549 of June number.)

REMEDIAL agents influencing the *excretions* hold, perhaps, the most important place in the entire field of therapeutics, as morbid action, especially slight functional derangement, mostly arises from the retention of some effete matter, or from the presence of some extraneous toxic agent in the circulation. During the incomplete combustion effected in the system, water, carbonic acid, and urea, are not directly formed; but the morbid elements enter into intermediate combinations more or less nearly approaching them in degree of oxidation, according to the comparative perfection or integrity of the functional power of the organism; more or less disorder occurring from imperfect elimination. The presence or absence of these agents in the urine would seem to depend upon the degree of solubility of the compounds formed in their transit through the system. Salts of silver, and others, are excreted by the skin; those of less solubility, or those forming insoluble compounds with the albuminous constituents, are probably ejected with the bile in the fæces.

Saline diuretics seems to act in two ways; first, by causing *increased* repletion and tension of the capillaries, generally and locally, coupled with *diminished* retentive power in their walls for the displacing saline fluid; and, secondly, by a solvent effect upon effete tissues.

In the action of those of the first class, or *purely physical diuretics*, the constriction ensuing, together with the lessened absorbing function, effects the diuretic operation. Amongst the latter, or *chemical diuretics*, nitrate of potass deserves special notice. It would seem to exert a solvent effect on tissues of low vitality, though in a less degree than alkaline carbonates; the textures more rapidly being metamorphosed, and thus rendered soluble in the blood, and removeable by the glandular apparatus. The principal action, however, of nitre seems to be exerted locally on the kidneys. This salt, in common with other neutral salts, exercises a liquifying power upon the blood, preventive of the coagulation of its fibrin, which is probably held dissolved, in part, through the agency of the saline constituents. We have thus a clue to the *modus operandi* of nitre in rheumatism and other phlegmasiæ. The sulphate of bebeerine, according to Dr. Golding Bird's researches, (who has very ably worked out this department of science,) powerfully influences the excretion of effete or superfluous matters from the circulation; the extractive matters in the urine being considerably increased under its use. Salts of mineral acids, in small doses, appear to exert a preservative power over the blood-corpuscles; salts of soda being more effective than potass salts. Schmidt, however, found that in the fluid of the corpuscles of the blood, salts of potass predominated; while, in the plasma, salts of soda existed in greater relative amount. Mineral acids seldom or never enter the circulation, as such, but, after exciting a local action more or less astringent, are converted into salts, and present new pro-

perties. The wasting influence observed to follow their protracted use,—under which head *refrigerants* may be comprised,—appears to depend upon the indirect effect exerted over primary assimilation by their neutralising the alkaline agents contained in the digestive tube, and thus interfering with the elementary process of nutrition. The tartrate of potass and soda, and other vegetable acid salts, when given in small doses, render the urine alkaline in about seven cases out of ten; in the remaining instances, the urine is either acid or neutral; and these results are independent of the normal reaction in the daily amount of urine secreted. Alkaline tartrates, citrates, and acetates, suffer decomposition during their transit through the organism, carrying away in their excretion, as carbonates or oxalates, those effete matters normally eliminated through chemical agency, which is thus assisted by their presence. In connexion with this effect, it may be stated, that citrate of potass was found, by analyses of the blood of subjects while under its use, not to alter its fibrine or buffy coat; the inflammatory state progressing in the face of the alkaline carbonates resulting, and capable of being detected in the urine. Alkalies, however, when given in large doses, being converted into carbonates and albuminates, for the most part, powerfully modify the blood and other fluids, in most abnormal conditions of the body, diminishing the blood-corpuscles, and exerting a refrigerant or sedative action on the system. The urine is rendered either alkaline or neutral under their use, for the most part depending upon the quantity taken, and the time of exhibition in relation with the digestive process. Magnesia and lime act similarly, but with lessened energy, probably in consequence of their slower solubility. The mode in which the soluble forms of magnesia operate in arthritic affections, may depend upon the liberation of the alkaline earth from the blood. Citric acid, and others taken from the organic kingdom, would appear, according to Dr. Rees's researches, to promote oxidation of the tissues; a conclusion which is rendered highly probable by the increased excretion of urea following their exhibition. More stable acids probably act indirectly in checking the excretion of alkaline urine, by preventing the decomposition of urea into an ammoniacal carbonate, as suggested by Dr. Hassall.

The *simple diuretic drugs of vegetable extraction*, (comprising squill, copaiba, broom, juniper, guaiacum, digitalis, turpentine, etc.), remove little more than the aqueous contents of the organism through the kidneys; their excessive use being followed by arrest of secretion, from the capillary congestion ensuing. The blood is rendered of higher specific gravity from the subtraction of its watery constituent, and the solids become relatively greater in amount. Hence their office would seem to be that of a merely mechanical or indirectly chemical agency, analogous to that of diaphoretics.

The therapeutic class of remedies termed *alteratives* have a close affinity with the preceding medicaments, which, indeed, insensibly merge and are resolvable into agents, exerting a slow but constant effect upon the economy. The preparations of mercury and iodine take a prominent position under this head. M. Mialhe has instituted numerous experiments upon the former, and other metallic salts, from which he concludes that they owe their efficacy to their conversion into bichlorides in the intestinal canal, and to their forming soluble compounds with albumen and alkaline chlorides; the plasticity of the

blood being diminished on their gaining access to the circulation. From an analysis of the blood of a patient suffering from ophthalmia, made by Dr. Ayres, *before* and *after* salivation, it would appear that the fibrin is diminished, the albumen but slightly affected, the solid constituents generally being increased, especially the red blood-discs. Mercury exerts a manifest influence upon morbid nutrition, stimulating that function to increased activity, and further aiding in the restoration of the normal action, probably by some species of catalytic operation, with the intimate nature of which we are but little acquainted.

Mr. Simon ingeniously suggests, that mercury, and other metallic salts, act by moderating and regulating a previously masked but impending explosion in cacoëmic disorders; and thus hastening the expulsion of the products of retrogressive metamorphoses in the organism. Mercury has been detected in the saliva by Lehmann; it has also been found in other secretions, as well as in the solids. Mercury must be presented either in minute division, or in a soluble form, prior to its admission into the circulation, into which a large quantity cannot penetrate at one time.

The tartrate of antimony, the most potent salt of this metal, has experimentally been found by Boecker to increase the urea and combustible salts in the urine; promoting the waste of the blood-globules in an especial manner, and diminishing the "melanotic globules". Introduced into the stomach of animals (in four-grain doses), it was found, by MM. Duméril, Demarquay, and Lecoïnte, to produce very slight elevation of the thermometer; and an increase of the dose (to seven grains) rapidly lowered the animal heat. The oxy-sulphuret (in doses of one scruple daily) was found by Boecker to increase the consumption of fibrin, albumen, and red globules of the blood. The *modus operandi* of salts of antimony (more especially of the emetic preparations) has evidently a close relation with the function presiding over the animal heat of the body, whether this be effected through chemical reactions, under the control of nervous influence, or otherwise. According to Mialhe, all antimonial preparations are converted into an antimonial chloride; their degree of activity being in proportion to their solubility in the alimentary fluids. Their primary effects are dependent upon their local action, the systemic or general operation occurring subsequently to their reception into the blood, where they are decomposed into an oxide, which, according to Mialhe, mechanically obstructs the smaller capillaries. These views, though perhaps partially correct, are, however, too purely physical, and do not comport with the whole train of effects proper to these potent agents.

Numerous experiments have been undertaken, to determine the properties and probable mode of action of iodine. This metalloid and its analogues would seem to owe their peculiar effects to a liquefying power exerted over the blood, resembling that of the nitrate of potass. The organs through which they are excreted are stimulated to increased activity, probably in consequence of a conservative function, set up for the removal of agents foreign to the economy. That certain drugs select special organs for their exit, seems to be an ultimate fact, mostly incapable of explanation. These metalloid bodies, before gaining admission into the circulation, must be rendered soluble by their combining with alkalis, as haloid, or oxy-salts. Sulphur, given

internally, was found by Boecker to increase the proportion of urea and uric acid in the urine; the other constituents being either augmented or diminished. The exhalation of carbonic acid from the lungs becomes remarkably increased from small doses of sulphur. In large doses, it is diminished simultaneously with increased action from the liver; the dark (melanotic) globules diminished in (inverse) ratio to the increased pulmonary exhalation of carbonic acid gas; a proportionate decrease in the other blood-constituents likewise resulting. From MM. Millon and Laveran's researches, upon the effect of the administration of several saline bodies on the urine, it would appear that sulphur is never detected therein; being either ejected from the body in union with some organic constituent, as with tauro-cholic acid in bile, or else becoming oxidised in its transit through the system. We have here some elucidation of the effects of sulphurous mineral springs. Salts of ammonia, in like manner, exercise a well-marked modifying power over the digestive organs, and over the crasis of the blood. The muriate, administered internally, has been found by Boecker to diminish the blood-plasma and red corpuscles, though it subsequently increases the latter; promoting secretion from the mucous membranes generally. The acetate of ammonia appears to divide its acid and base between the skin and kidneys respectively. It has been conclusively shown by Dr. Bence Jones, that when the former salt is exhibited, nitrous acid is found in the urine, resulting from oxidation of its nitrogenous element. This salt is well known to possess cholagogue properties, and probably acts in virtue of this evolution of nitrous acid in the circulation; removeable compounds resulting by its facilitating the destruction of combustible matter, to the manifest relief of the system. The other salts of ammonia are less efficacious, not being sufficiently stable to gain access to the blood before entering into new combinations; to these, however, some of its properties are due. Its nitrogenous element brings ammonia into relation with neurotic agents. All its salts, according to Dr. Delieux, appear to act more or less as alteratives and antizymotics, by their neutralising powers in toxæmic states of the blood, and as sedatives in chest affections; thus connecting ammoniacal agents with those specially affecting the nervous system. Dr. Teissier, of the Hôtel Dieu of Lyons, arrives at the following conclusions, which are here quoted as being both recent, and confirmatory of the foregoing statements. "Solution of ammonia may be usefully given in disorders connected with smoking tobacco. It is equally useful in the injurious effects attending the abuse of alcoholic potations, especially nervous derangements. It is incorrect to consider ammonia as efficacious only in slighter cases of inebriation, as it is capable of rendering signal services in permanent lesions. Ammonia has not stimulating and sudorific properties alone; if thus restricted in its circle of operation, it would be impossible to furnish an explanation of its happy effects in a crowd of maladies,—in certain nervous disorders, in venomous wounds, in cases of internal poisoning. It possesses anti-poisonous properties more than is generally supposed; being justly regarded as a potent alexipharmic. The doses usually prescribed are too strong, from ten to fifteen drops daily being sufficient, if we do not wish to induce hæmorrhage or a cachectic state."

All the medicinal *agents promotive of free alvine evacuations* have the effect in common of removing out of the system effete or toxic matters, whose presence would impede or depress the organic functions. This indication forms the basis of our treatment of most diseases in the first instance, just as a similar depurative process is beneficially applied, by means of other agents, through the various secreting and excreting organs. Their action severally is either stimulant or depressant; the preponderance of either effect marking the character of the individual purgative. Local hyperæmia, quickly followed by secretion, constitute their normal action. There exists a marked sympathy between all parts of the intestinal canal, acting from above downwards; its extremities being the most sensitive. Certain drugs have special affinities for the several anatomical divisions of the digestive tube, for which it would be difficult to assign a satisfactory explanation; as it would also be for their quicker or slower operation. All these agents have a derivative effect upon the circulation, which materially contributes to their remedial powers. Most cathartics exert a stimulant effect upon the muscular coat of the intestines; thus it happens that some drugs not directly cathartic, as *nux vomica*, produce this effect by their restoring the motive ganglionic function. Purgatives which are insoluble in the intestinal fluids, act as such by the mechanical irritation set up. The *modus operandi* of these severally is suggested by their peculiar effects on the organism. Oleaginous purgatives act chiefly by endosmosis, inducing an increased flow of serous fluid from the intestinal capillaries, and consequently augmented fæcal excretion. Strong saline solutions exert a similar effect, and in a like mode; sulphate of soda was found to act much as the double tartrate of potass and soda. Mercurial preparations, *taraxacum*, and other evacuants, for the most part act by inducing an increased discharge of bile; but the stimulant or irritant operation of the former agents is imparted to the intestinal excrements, in common with the secretions of the system generally, whereby exaltation of function ensues. Purgatives of the hydragogue subdivision, as *elaterium*, *gambooge*, *croton oil*, etc., operate in removing abnormal serous accumulations, through some special agency, which, for want of a more explicit term, is called *vital*; the animal heat being at first depressed, but subsequently raised, under their use. Resinous drugs, as *colocynth*, *aloes*, etc., having purgative properties, are dissolved by the intestinal alkaline fluids, and then are absorbed; the lower portion of the intestinal canal coming more particularly under their operation, and the evacuant action arising from their acrid or irritant qualities. *Rhubarb* acts as a purgative and diuretic; its resinous constituent being determined to the bowels, and its saline matter to the kidneys.

All *astringents*, acting chemically, appear to impart their property to the blood through which the capillaries become acted upon; the effect being probably dependent on their combination with the more fluid portions of the blood, exudation being thus checked.

Under this head are comprised gallic and tannic acids, salts of alumina, lead, and iron. The two former astringents may be considered identical in their action as in their composition; tannic acid being made up of the elements of gallic acid, *plus* sugar and water, and, moreover, as tannic acid has been shown by *Frerichs* to be converted into gallic acid in the circulation. Tannic acid acts more

as a local astringent, thus contrasting with gallic acid, the effects of which are more apparent upon the system at large. Salts of alumina and lime seem to constrict by being deposited as insoluble compounds, either in the capillaries or tissues, or on the mucous surfaces. This absorbent property is especially marked in the phosphate of lime, which, at first rendered soluble by the gastric acids, is immediately precipitated on being absorbed, and thus sheaths the organic pores by the insoluble gelatinous salt resulting. A greater degree of astringency, or a styptic action, results from a chemical union with the more solid portions of the blood or tissues, an insoluble or soluble compound being formed; the vitality of the tissues being, however, preserved. Creasote has the former effect; and its antiseptic properties are probably due, in common with other remedies of this denomination, to its counteracting the tendency to decay (eremacausis) in the solids and fluids. Salts of lead, bismuth, and zinc, act as astringents, according to Mialhe, by being first absorbed as chlorides in union with chloride of sodium, forming double salts, which are decomposed by the contents of the intestinal capillaries into insoluble metallic salts; this deposition obstructing their circulation, and checking secretion. Salts of copper, acting as astringents, are, according to the above authority, divisible into a soluble and an insoluble group; the former, united with an organic acid, are directly absorbed, the albuminous salt first formed being re-dissolved in an excess of the salt of copper; salts of the mineral acid group forming albuminous salts of difficult solution.

The *emetic* effect of the tartrate of antimony, as of ipecacuan, in inducing vomiting, is exerted when introduced either into the stomach or veins; with its nature or mode of production we are imperfectly acquainted. Ipecacuan, topically applied, has an irritant operation, but modified according to the tissues with which it is brought in relation; the dynamic (proper) effect being exerted independently of the local, which is, moreover, counteractive of the former, and must be avoided in its exhibition; the therapeutic action being essentially sedative and alterative. The temperature of the body is less affected (lowered) than by emetic tartar (in $3\frac{1}{2}$ gr. doses); large doses even raising the animal heat, thus contrasting with the latter drug. Sulphates of zinc and copper rapidly induce vomiting; the latter being found, by M. Dumeril and colleagues, to produce a marked and lasting depression of temperature, when injected into the stomach (in $3\frac{1}{2}$ gr. doses), and the œsophagus being tied. The action of *expectorants* is partly dependent upon their control over disease manifested locally; nauseating remedies relaxing the pulmonary exhalants, stimulating drugs increasing and modifying pulmonary secretion. Senega, *ex. gr.* was found by Boecker to increase the several constituents of the urine, as well as carbonic acid from the lungs and kidneys respectively.

The *modus operandi* of expectorants inductive of vomiting, is manifestly that of mechanically dislodging abnormal accumulation.

Numerous remedies act in virtue of sympathies existing with neighbouring or remote organs; such as some of those comprised in the *emmenagogue* class,—*ex. gr.* aloes, oil of turpentine, etc.; the former influencing the uterine system through the bowels, the latter through the urinary organs. The kind of influence thus brought into operation, compels us to view the human organism as something over and

above a reducing or transforming apparatus; its numerous vital affinities being modified or controlled by agents whose mode of action is indirect, and in their turn dependent upon the connexion subsisting between, and the reactions of, the several components of the body.

Having rapidly passed in review those medicaments whose mode of action has a close connexion with *mechanical* or *chemical* changes thereby affected, other agents, more or less referred to under previous heads, may be here noticed; as, although not divested of their physical affinities (as we shall find), they evince peculiar *dynamical* properties, for which we are for the most part unable to assign a satisfactory explanation. These are, stimulants, tonics, narcotics, and sedatives, whose action, though evinced elsewhere, is principally through and upon the nervous system. They have all a close relation in common with the nervous tissue and its functions; some of them acting upon special divisions of this system. Most of them contain nitrogen; viz. hydrocyanic acid, morphia, and codeia, acting on the cerebral and ganglionic centres; strychnia, brucia, and conia, acting on or paralysing the spinal cord; veratria and colchica, nicotina and digitaline, specially affecting the ganglionic system; cinchonia and quinia, acting on the nervous system generally. Hydrocyanic acid furnishes one of the most potent toxic agents in relation with the vital functions, quickly arresting or annihilating them; probably by a catalytic action, of a kind which interferes with the process of hæmatosis. Alcoholic and etherial bodies come under this head, impeding as they do more or less the respiratory function, by the ensuing increase of extractive matter, which appropriates the oxygen introduced for the purposes of the economy. Chloroform, when inhaled, was found by Grouby to increase the bright colour of arterial blood, and to impart the same to venous blood. A different result, however, has been arrived at by other experimentalists, who found venosity of the blood to be induced and increased under its use. When injected into the veins by M. Flourens, it immediately induced paralysis of the muscles, with tetanic rigidity, as did volatile oils of turpentine, mint, rosemary, and fennel. Sulphuric ether, and other ordinary ethers, (also fixed oils, oil of naphtha, sulphuric acid, ammonia, and camphor), were found to produce muscular paralysis, with *relaxation of fibre*. Thus the former agent seems to *partially suspend*, while the latter *entirely exhaust* the motive nervous influence, manifested respectively through the ganglionic and spinal systems. Chloroform, and related agents, inhaled, induce, as is now well known, general anæsthesia; the sciatic nerve being found to retain its motive power, although insensible. They induce a state of the spinal cord, which renders it insusceptible of the transmission of impressions. Dr. Abeille, of Corsica, has recently used electrical currents, passed through needles introduced into the cervical, spinal, and other muscles, with success, in removing the insensibility consequent upon the inhalation of chloroform, which state he believes to depend upon a short and temporary disturbance of the cerebro-spinal nervous system, removeable in this way, even after asphyxia has set in. We here may remark that merging of properties of neurotic agents severally, which will be shortly referred to.

Phosphorus, in an unoxidised state, forms an essential constituent

of the nervous tissue, and especially affects the nervous system, being analogous to iron in its relation with hæmatosine. Nearly similar effects ensue from arsenical, antimonial, and ammoniacal preparations; these bodies respectively seeming capable of replacing each other (isomorphically) in the combinations making up the nervous structure. The former agents, of exclusively vegetable extraction, approach nearer to the composition of nervous matter than any other class of remedies, and probably exert a direct influence over its production, any excess being discharged through the urine, unchanged in composition. Of the latter bodies, arsenic and antimony act in any state of combination, when gaining access to the blood; phosphorus and ammonia require to be presented in special forms, as being normal constituents of the organism; and azotised bodies evince different effects, varying with the amount and state of combination of the nitrogenous element. Here we have an illustration of the analogous action of quina and arsenic. The well-known effects of tea and coffee upon the nervous system, both moreover retarding the oxidation of tissue, come under this head, as do antimonials and digitalis, in respectively subduing vascular excitement. The special affinity of these agents severally, for particular divisions of the nervous system, appears to be at present quite incapable of any satisfactory explanation. This election, no doubt, has a close dependence upon the proximate changes and operations going on in the blood and tissues, as well as on minute peculiarities of structure in the parts most concerned, as before referred to.

Phosphorus exhibited internally, in combination with vegetable oils, in cases of phthisis, was found by Dr. Theophilus Thompson, productive of benefit. This ingenious and philosophical observer suggests that it probably acts by facilitating the evolution of the phosphoric salts from the blood necessary to its healthy constitution; and, further, by appropriating superfluous oxygen, tending to prevent destructive suppuration taking place in the pulmonary tissue.

Strychnia, and other remedial agents specially exciting the spinal nervous system, were found by Boecker—to whom we are indebted for many exact experiments on this subject—constantly to induce a liquefied condition of the fibrine of the blood, which is usually found fluid after death from poisonous doses, just as from the effects of lightning. The suspension and loss of nervous influence may possibly induce this state of the blood in an indirect manner, viz., in consequence of the motor lesion of the respiratory and circulatory systems. Recent experiments by Lepelletier upon brucine, throw some light upon its mode of action, as well as upon all remedial agents, ranked under the head of *dynamical* agents. He found its physiological operation especially evinced upon the nervous system, its action being momentary or permanent. In the former case, it acts at separate intervals, and upon isolated portions of the economy, the action being partial and passing away. In the latter instance, its effects are manifested at a given moment, becoming universal, and constituting general attacks. The evanescent effects are a pricking sensation in the extremities, and in the head. In doses beyond $1\frac{1}{2}$ gr., shocks resembling electrical succussions ensue, becoming greater in proportion to the increase of dose, and being exerted chiefly upon paralysed limbs; the muscles engaged in the process of mastication and deglutition being but little affected, contrasting with the

effects of strychnia in this respect. Loss of sleep subsequently ensues, also headache, and impaired vision. The more permanent or veritable effects are, first, yawning, stretching; subsequently, convulsive movements of the extremities, desire to vomit, and bitter taste in the fauces, shivering, followed by general feebleness, preceding the subsidence of the attack. Secondly, spasmodic movements of the extremities, lasting from five to ten minutes. Thirdly, feebleness and oppression, some pain in the limbs, which become feeble and much relaxed, headache, disturbed sight and hearing, with thirst, restlessness, heat, and subsequent sweating of skin ensue. The therapeutic effects of brucine were favourable in cases *not dependent* upon inflammation of the lining membrane of the spinal cord.

Premising these remarks as to the general relationship of remedies peculiarly affecting the nervous system, we may glance at the distinctive phenomena evinced by each subdivision. *Stimulants* produce an excitement of a transient character, dependent upon their power of arousing the nervous energy and play of the vascular system. The ensuing depression is a *secondary* consequence of the previous excitation, and not a *direct* result, as from sedatives.

Tonics exert a more moderate effect of a like kind, directly regenerating nervous power, whether administered in health or disease. Many remedies, previously referred to, may be arranged under this head, their roborant effects being due to very different sources and modes of action; thus, an astringent acts as a tonic, by arresting wasting discharges. Roborant agents have, indeed, a close relation with astringents, with which the former are often met in natural combination. However, it is apparent that roborant and constringent properties differ in kind, from the fact of their properties being respectively more marked in remedies possessing one quality nearly to the exclusion of the other—quina being a pure tonic, catechu an astringent, Peruvian bark a compound of remedies uniting the effects of both. Again, an alterative medicine may, by removing some noxious matters from the blood, exert a roborant effect; as may a plastic agent, nitrate of silver, *ex. gr.*, by combining with albumen, and thus modifying nutrition. Iron pre-eminently typifies the tonic property of drugs. Some recent experiments of Mialhe would appear to show the pertartrate to be the most active preparation of iron. The red globules of the blood are greatly increased under its use, the fibrin being little affected, and the albumen slightly increased. According to the above authority, iron is received into the circulation in every instance, as a per-salt united with an organic acid; an interchange then ensuing with the albuminate of soda contained in the blood, an albuminate of iron resulting.¹

Narcotics, like stimulants, produce, primarily, excitement, followed by repression of nervous and vascular energy, according to the dose. Opium, being a composite drug, possesses a mixed operation: narcotine being its stimulant portion, morphia its true narcotic principle; sleep directly following its ingestion without previous excitement, un-

¹ This conclusion, it may here be remarked, is not in accordance with the observations of others, as may be seen by reference to a paper by the writer of this article, published in the *Lancet*, (August 1844), "On the Comparative Medicinal Effects of the Salts of Iron"; also in a thesis presented to the University of London, when graduating.

less the brain be considerably disturbed. Opium produces a sedative effect in small doses, a stimulant effect in medium doses, and a powerfully sedative action, again, in very large doses; the system, though feeling the shock, being unable to react upon it. Codeia, another constituent of opium, appears to act as a stimulant upon the cerebro-spinal nervous system—sleep never following its exhibition—and as a sedative on the ganglionic system.

Indian hemp is a very powerful narcotic, being at first stimulating in its effects, and thus presenting a close resemblance to opium.

Henbane is also a compound remedy, containing sedative with narcotic properties. Belladonna was found by Boecker to increase all the urinary constituents, except the uric acid and non-combustible salts, which were diminished. It also promoted biliary and alvine excretion; the blood-globules and, subsequently, the plasma, were used up. Belladonna is a local stimulant to the mucous membrane, a narcotic and sedative effect subsequently ensuing. It would appear to exert its influence by deadening spinal reactivity, a contrary or exciting effect taking place in the cerebral centres; thus evincing the antagonism of these centres of nervous action respectively. Its preventive property in scarlatinal epidemics may probably arise from its obtunding the organic nervous system. Aconitine is another drug exerting an acro-narcotic and a sedative effect, the latter especially predominating. Its peculiar effect in producing a numb constrictive sensation, the development of which is necessary to its operation, is very significant of its *modus operandi*. It appears to exert its influence chiefly upon the cutaneous surface, relieving pain, and promoting exhalation charged with morbid principles. (*Teissier*.)

Conicine, or conia, has been found to resemble nicotine by M. Orfila, in its potent effects upon the system, both being absorbed, and detectable in the principal organs of the body. The poisonous symptoms produced by either are much alike, being distinguishable into three periods: respectively characterised by vertigo, convulsions, and sinking.

Nicotine exerts an irritant effect when locally applied, but its general operation is essentially that of a sedative.

All true narcotics appear to accomplish their effects by slackening the nervous currents throughout the body, by their interference with the conducting power of the nerves, probably as a result of their forming a new chemical compound, of more or less persistence, with the nerve-matter.

Sedatives directly and positively lower nervous energy,—not, like stimulants, from exhaustion consequent upon previous excitement.

Digitaline, the active principle of foxglove, typifies this order (sub-division) of neurotic agents. It acts as a direct sedative on the ganglionic system; but, like some other neurotic agents, exerts an irritant effect when locally applied. Its general action is affected by the state of the stomach, if unhealthy; the sedative operation being interfered with. Its effects are partly referrible to its controlling the circulation, and thereby diminishing the amount of blood in the lungs. In large doses, digitaline induces emeto-catharsis, more or less sudden. In still greater amount, its poisonous effects are manifested; more generally when injected into the veins, than when taken into the stomach. It occasionally acts upon the nervous centres as an excitant, according to Homolle

and Quevenne's experimental researches; and Delafond found it to raise the pulse in the phlegmasiæ. Green tea was found by the writer to exert a compound influence, acting as an irritant and sedative in severe sea-sickness; very great depression, with rapidity and irregularity of pulse, attended with præcordial anxiety, following its use, in the form of a strong infusion; symptoms which, *cæteris paribus*, were not previously experienced on like occasions. Colchicum was found by Boëcker to diminish the urinary constituents; the skin, lungs, and liver evincing increased activity at first, but the latter organ only at a later period. This agent was found to destroy the melanotic globules in the liver; the pulmonary and cutaneous secretions being subsequently diminished. So much for experiment. Its action is essentially sedative, however, and not that of an evacuant exclusively.

A significant resemblance may be traced in the effects of these several subdivisions of neurotic agents, so much so, as to suggest almost identical properties and modes of action, differing, however, in the special part of the nervous system engaged, and in their degree of influence thereupon. Their relative order, as to these effects, might stand thus: tonics mark the ascent, stimulants the culminating point, narcotics the descent, and sedatives the complete repression of nervous force. Their sphere of operation differs in some cases, but it is the same nervous element, existing as a complex apparatus, that is concerned in all, the effects of course varying with the functions of each subdivision of the nervous system.

As bearing upon this merging of properties, it may be called to mind, in relation with the nervous apparatus, that convulsions, numbness, and paralysis, would appear to be related phenomena, connected with, though more or less remote from, that equipoised condition of the nervous tissue, which ordinarily maintains its (galvanoid) action in a steady and unremitting operation. Impairment in the degree of this normal condition induces disturbance, in the form of tingling, numbing, etc., or even causes complete loss of nervous force, (paralysis), and its concomitant mental manifestations.

The *primary* effect marks the special relation of each neurotic agent to particular nerve-centres, the entire nervous system and organism being ultimately implicated. Brucine and digitaline may be respectively supposed to represent the extreme circuit (or opposite poles) of effects consequent upon the administration of neurotic remedies; each converging, as it were, from a reverse direction, to evince tonic effects in the former agent, and excitant in the latter; and thus completing the circuit of action here drawn from the analogous operation existing between those therapeutic agents. Beyond this general parallel, one cannot venture to suggest or point out any closer relationship; imperfectly acquainted as we are with the intrinsic action of the nervous system, and not even agreeing upon the fundamental operations of its special subdivisions. It is impossible, in the present state of our knowledge, to refer most of these neurotic agents to any mode of action other than that of dynamical bodies, calling into play or repressing nervous force diffused throughout the organism. This they probably effect in virtue of their purely physical qualities, or chemical properties, having relation with the structure and functions of the animal economy. Thus opium, *ex. gr.*, and other agents powerfully affecting the

nervous system, injuriously influence plants as well as animals, showing some effect in common upon organic life, whether manifested in the animal or vegetable kingdom of nature.

In concluding this compressed *resumé* of his subject, the writer would just remark, that the instances cited in illustration of the physiological and therapeutic effects of remedial agents, may not be deemed apt or to the point, and the explanation, (in most cases very imperfectly), attempted to be given, may be termed a *petitio principii*. But the truth is, that we are not able to dip further into the arcana of natural operations, than to express, in very general terms, the method by which changes are brought about in the system under these operations; a statement but little removed from the mere assertion of the phenomena ensuing upon their exhibition. If we may ever hope to deduce general conclusions of a more comprehensive and intelligible character, it must be by very gradual steps supported by trustworthy data, and in accordance with improvements and discoveries in other related departments of science.

21, Edward Street, Portman Square, June 1852.

ON NEAT'S-FOOT OIL, AS AN OCCASIONAL SUBSTITUTE FOR COD-LIVER OIL.

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OUR best acknowledgments are due to Professor Hughes Bennett for bringing into general use a remedy so important as the cod-liver oil. To its efficacy, the experience of the entire profession bears testimony. No other remedy of recent introduction has so completely supported the pretensions made in its behalf, or so generally fulfilled all reasonable expectations from its administration. In every case of chronic innutrition, whether from scrofula, tubercle, rheumatism, cancer, syphilis, morbus Brightii, or other visceral disease, with the single exception, perhaps, of disease of the liver, the cod-liver oil is useful, *provided* it can be readily digested. It is not therefore with any intention of recommending a substitute for the cod-liver oil, where that can be taken with comfort, that I direct attention to the internal use of another animal oil; but with the object of showing that we are not without an allied remedy in reserve in certain cases in which the cod-liver oil cannot be made to agree.

More or less, it is usual for the cod-liver oil to disagree at first with the majority of patients, and there are few who do not find it desirable occasionally to intermit its use. But this ordinary amount of disagreement may generally be overcome by perseverance, and by attending to a few little points in the administration of the oil. These little points are,—to commence with very small quantities; to avoid the presence of much fluid in the stomach; to avoid an empty state of the stomach; to take the dose an hour, or less, after a solid meal, when the food is somewhat chymified; to try the different kinds of oil, if

the first disagree; and to try different forms of vehicle, until a suitable one be found.

I may remark, in passing, that it is a practical error to be anxious in every case to increase the dose of cod-liver oil, so long as the quantity taken already seems to be acting well. Just as a very small quantity of iron, in a case of anæmia, will frequently prove an effective stimulus to the formation of red blood, which will afterwards continue to be formed by the natural energy of the system; so, a very small quantity of assimilable oil appears to give an impulse to nutrition, which extends far beyond the mere assimilation of the oil taken in. The case is different, however, when the system suffers from a draining away of its albuminous and oleaginous elements, in the form of great purulent discharge. The oil is then given as much to furnish supplies as to direct their appropriation, and the only limit to its quantity is the dose that will agree.

It is a mistake to ascribe the disinclination of those who object to cod-liver oil to the disagreeableness of its taste, or the unpleasantness of swallowing it. There are but few patients who object strongly to the mere taking of the oil. It is the indigestibility when taken, the slight malaise, occasional nausea, impairment of appetite, and the reminding eructations for several hours afterwards, that naturally cause disgust. By habit, these effects may cease, and the oil eventually be taken with comfort, and even with an acquired relish. Such a result is especially promoted by occasional attention to the liver. Until the system has been for some time accustomed to the oil, the liver is apt to become sluggish under its use. An intermission of the oil for a few days, once in five or six weeks, and the administration of a mild mercurial often appear to do good in every way. But it is not always so. Some patients are positively unable to persevere in taking cod-liver oil without so much derangement of digestion as to make the continuance of the remedy unadvisable; and we cannot always succeed by appropriate preliminary treatment in removing the opposition. In cases of chronic phthisis, cod-liver oil will generally disagree:—

1. When there is any considerable febrile movement, whether the local symptoms of active inflammation be distinctly marked or not.

2. When the tongue is morbidly clean, beefy red, glassy, fissured, and the corners of the mouth irritable.

3. When the tongue is thickly furred at the base and sides, but red at the tip, with a glazed patch of clean red in the centre of its dorsum.

4. When the tongue is large, flat, pale, moist, and indented by the teeth, in connexion with general asthenia and its accompanying atonic dyspepsia.

If we can first remove these signs, we thereby lessen the opposition to the oil. In the last-mentioned instance particularly, if we can succeed in curing the asthenia, the case is removed from the category; but until then, cod-liver oil seldom agrees.

Diarrhœa contra-indicates cod-liver oil only when the stomach, as marked by the state of the tongue, participates in the irritation. As Dr. Walshe has remarked, where the oil can be taken in cases of habitual diarrhœa, it does not increase this. But there are occasional exceptions.

In each class of cases referred to above, as those in which cod-liver oil, for the most part, does not agree, I have found the neat's-foot oil agree.

Taken in the same way, in the same dose, and with the same precautions as the other, it does not remind the patient of its presence after being swallowed. At first, it commonly acts very gently on the bowels, evincing this rather by softening the evacuations and maintaining their habitual regularity, than by increasing their frequency. In some cases of chronic diarrhœa, when the oil has been given in conjunction with tannin, or with nitric acid and opium, the bowels have become less irritable under its exhibition. In other cases of diarrhœa, the oil has appeared slightly to increase the disturbance. Pains in the chest have improved, the subcrepitant rhonchus at the apex has cleared up, under such circumstances as to give me the impression that the oil had ministered to the result, whilst the general improvement in condition has equalled what we customarily see from the cod-liver oil when it agrees.

The neat's foot oil has also proved of service in simple bronchitis, not connected with tubercle, after the acute stage has passed; in overcoming habitual constipation; in allaying the irritation of hæmorrhoids; and, in general terms, in improving the condition of children who, without manifest ailment, remain too thin, notwithstanding judicious management of their regimen.

In regard to its aperient effect, however, the neat's-foot oil is somewhat uncertain. Usually, as already stated, it at first produces very slight action of the bowels, and then maintains them in a state of regularity. But sometimes it fails to do this, and aperients are required to be superadded. On the other hand, in young children, and in some adults, whose bowels were irritable, a relaxed state has ensued after the oil has been taken alone for a few days. In no instance has it appeared to irritate the mucous membrane, or to produce griping. If there is no diarrhœa, the oil may be expected to promote regularity of the bowels, and nothing more. If there is diarrhœa, or the tendency to it, the oil need not on that account be avoided. The conjoint administration of any suitable astringent will enable the oil to be taken with advantage in the majority of cases.

The cod-liver oil, in a few instances, produces an herpetic eruption about the mouth, very trifling in extent, and a sore state of the tongue. So far I have not observed such effects from the neat's-foot oil. But as they usually occur in summer, I have not yet had a sufficient opportunity of judging. Neither is my experience at present at all sufficient to allow me to draw any comparison between the cod-liver and the neat's-foot oils, in point of ultimate efficacy, where both agree with the patient. I would by no means therefore advise the substitution of the latter, where the former has been habitually taken without inconvenience. There is one exception; when the bowels have been habitually constipated, I have replaced the cod-liver oil by the other with advantage.

As we should anticipate, there are certain of the more acute cases of phthisis in which the neat's-foot oil, (like the cod-liver oil, when it can be taken), proves of no avail in checking the softening of the lung or its attendant emaciation.

The oil of the skate has been supposed with some patients to agree better than the cod-liver oil. I have tried it only twice; in neither case did it agree. The principal claim of neat's-foot oil to attention, therefore, rests upon this, that it will frequently agree with the digestive organs, where the fish oils will not.

There is at present some difficulty in obtaining the genuine neat's-foot oil. From the butchers, it is obtained too much mixed with impurities; from many druggists, mixed with so-called nut-oil; from some, too refined, having had almost all its stearine removed. In this so-styled *very pure* form, I find it disagrees with the stomach. In this, as in the cod-liver oil, and, probably, all other animal oils, a large proportion of stearine promotes the digestibility of the oil. The suitable kind of neat's-foot oil is that which is merely freed from foreign particles, yellowish brown in colour, and opaque and thick with stearine, like honey not over clear.¹

I am indebted to Mr. Walker, formerly of Bloomsbury Square, for suggesting the use of neat's-foot oil, in a case where the cod-liver oil could not be made to agree with the patient. It is, however, by no means an entirely new remedy. I learn from a lady, who is said to have had all the symptoms of consumption thirty years ago, that one Samuel Braunston, of Shuckborough, Warwickshire, was noted for professing to cure all sorts of diseases with neat's-foot oil. He wished to administer his remedy to my informant, but she declined.

To ensure a fair trial, I would suggest that care should be taken that the oil is genuine, but not what the druggists call "exceedingly pure"; that the dose to begin with be small—a teaspoonful twice a day—and increased by degrees to any quantity that may be desirable, and always taken when there is food in the stomach.

Torquay, April 15, 1852.

REMARKS ON DR. MARSHALL HALL'S THEORY OF THE RELATION OF LARYNGISMUS TO EPILEPSY;

AND ON ITS TREATMENT BY NITRATE OF SILVER
APPLIED IN SOLUTION TO THE GLOTTIS.

By EBEN. WATSON, A.M., M.D., Fellow of the Faculty of Physicians and Surgeons of Glasgow; and Professor of the Institutes of Medicine in Anderson's University.

"122. Observation teaches us that laryngismus, more or less severe, intervenes as the essential cause of all that is *convulsive* and most formidable in epilepsy.

"251. The effects of laryngismus are superseded by tracheotomy."

CROONIAN LECTURES FOR 1852.

ANY suggestion on such an important subject as the theory and treatment of epilepsy, especially when emanating from one, who, like Dr. Marshall Hall, has long devoted much attention to that class of disease, is well worthy the careful consideration of every practical physician. Nor can any one fail to see that, if Dr. Hall's statements be correct, a most important revolution must take place in our treatment of the disease in question, and a much more hopeful prospect will be opened up to its unhappy victims.

¹ In point of economy, neat's-foot oil is rather less expensive than cod-liver oil. The wholesale manufacturers charge it 1s. a pint; the wholesale druggists, 1s. 4d.; the Torquay druggists, 2s.; the London druggists, (at least some of them), 6s., under the name of *oleum bubuli*.

I cannot but admire the way in which this distinguished physician has followed what he calls "living pathology"; and there can be no doubt that if others were as capable as he is, of improving their opportunities of observation, we should soon arrive at many important results. In no other way, moreover, can a true theory of any disease of the nervous system be arrived at: for our means of investigating its structural changes after death are not much to be depended upon, even in the present advanced state of anatomical research. Dr. Hall looks at the phenomena of the disease, as they present themselves in the living subject; he notes the flushing of the countenance, the disturbed breathing, the convulsions, the stupor, etc., which occur in an epileptic paroxysm, and he endeavours to trace them to a sufficient cause, in accordance with previously ascertained laws of the animal economy. The result is, that he traces all the events of the epileptic paroxysm to spasmodic closure of the glottis, or laryngismus, as he calls it; which, according to him, causes an "impediment to the flow of blood from the brain and from the upper part of the spinal marrow, and, as a further consequence, all the dire forms and effects of this dire disease, viz. convulsion, convulsive falling, or rather dashing, to the ground, etc. etc."

Now there can, I think, be little doubt in the mind of any one, who has attended carefully to the symptoms of this distressing state, that laryngismus is indeed a very early, if not the first, occurrence in every severe epileptic fit; and that, supposing it to have occurred, it must be regarded as the cause of many of the subsequent events. But this does not amount to Dr. Hall's statement, of the correctness of which, indeed, I am not quite persuaded, viz. that laryngismus is "the essential cause of the epileptic convulsion". It, in fact, rather seems to me to be an early part of that convulsion. The glottidean muscles appear to be among the first to become spasmodically contracted; and the effect of this contraction upon the nervous centres, as well as the continued violence of the disease, tend to keep up that contraction, and to aggravate the mischief which, undoubtedly, it is capable of accomplishing.

In some of Dr. Todd's experiments, convulsions were produced after the windpipe had been opened; and I have myself seen a patient die convulsed, from an overdose of strychnia, while a trachea tube held the glottis expanded, and admitted of the inflation of the lungs. The cause of death, in this case, was obvious, especially on *post-mortem* examination; and an account of the whole case may be found in the *Edinburgh Monthly Journal of Medicine* for 1845. I merely refer to it in this place to show, not, as Dr. Todd imagined that his experiments proved, the impossibility of laryngismus ever producing convulsions, but that the former cannot be "the essential cause" of the latter; or, in other words, that convulsion may occur independently of laryngismus, and therefore it follows, that there is no necessary connexion between the two states, as cause and effect.

When, again, it is remembered how often laryngismus of the severest kind occurs in cases of whooping cough, of spasmodic croup, and even of apoplexy, without the occurrence of any other convulsive contractions, I think it will be granted, that Dr. Hall is somewhat too extreme, when he says that "laryngismus intervenes as the essential cause of

all that is convulsive in epilepsy". Why, what is laryngismus itself, if it be not convulsive? And if so, it remains to be explained what is the cause of the laryngismus, ere we have a perfect theory of epilepsy.

It may be, that the original cause of the malady is in the brain, or in the cord; or it may be some general affection of the nervous system, some morbid state of the nervous fluid, or some derangement of the nervous particles. I think it is useless to speculate on such hypotheses, without more solid data than we at present possess. Nor can I regard Dr. Todd's comparison of the state of the brain in these cases, with that of a highly-charged Leyden jar, the disruptive discharge of the latter representing the paroxysm of the former. I cannot regard such an hypothesis, emanating though it does from so excellent a physiologist, but as a warning against the slightest departure from strict induction in framing our theories of disease.

But, although I cannot assent to the unmodified proposition of Dr. Marshall Hall, as to the cause of epilepsy, yet I thoroughly agree with him in his statement, that laryngismus is the cause of *much*—I dare not say, with him, of all—that is dangerous or formidable in epilepsy. In this, however, is the great merit of Dr. Hall's view of the subject; for it matters comparatively little to the patient on what theory of its remote cause his disease is treated, if only that which is formidable therein be removed. And I think Dr. Hall has proved that, if the laryngeal spasm be prevented, the fits will, at all events, be much diminished in frequency, as well as in severity:—"the *grand mal* will become the *petit mal*." Now, this is no mean attainment; and I believe it is the result of rigid and correct observation of phenomena as they occur—a result which could never have followed the construction of the most ingenious hypothesis. For, though it still remains true, in my opinion, that we cannot altogether prevent the convulsions, yet it does seem possible to rob them of a great part of their terrors: in other words, though we may not yet be in a position to cure epilepsy, still we may remove laryngismus, which is the most dangerous part of the epileptic fit. Now this, according to Dr. Marshall Hall, is to be accomplished by the performance of tracheotomy; and I have no hesitation in stating my entire concurrence with him as to the necessity of such a proceeding, in certain severe cases, in which life may be threatened from continued closure of the glottis during the epileptic paroxysm. But the question of its propriety in a much larger number of cases, in which a longer or shorter interval of freedom from spasm occurs, is more difficult, and, in fact, is different in many respects. The operation is not then performed with the immediate view of saving life, but prospectively, with the view of mitigating the severity of the fits; and I believe that, in such circumstances, few patients would submit to this heroic remedy.

The treatment which I would now propose in its stead, is of a much milder and more innocent nature: and one which, I believe, will in most cases prove equally efficacious. It is simply the application of a solution of the nitrate of silver, varying in strength with the requirements of the case, to the glottis of the epileptic patient, with the view of diminishing the nervous excitability of the part in question. A similar treatment has been found by me remarkably successful in alleviating and removing, in a short time, the susceptibility of the patient

to laryngismus, in cases of hooping cough, and of spasmodic croup (laryngismus stridulus); nor can I see any reason why a similar result should not ensue in chronic cases of epilepsy. In the latter, the laryngeal spasm may occur at longer intervals, though by no means always so; and it may be accompanied by much graver results to the patient's mental, as well as bodily health: but the mechanism of the morbid phenomenon is precisely similar in both instances, and agents which affect it in the one case, may, or rather *must*, affect it in the other.

Nor have I been slow to test, by actual trial, this means of alleviating the severity of the epileptic paroxysm; and I may now be permitted to give the chief features of the following case in point.

Early in January of this year (1852), I was called to a young lady, who had for several years suffered very frequent attacks of epilepsy, and when I first saw her, she had but very short and uncertain intervals between the fits. These were very severe, and presented the usual characters of the disease in its most marked form.

Her bowels were thoroughly cleared out with croton-oil, and the cold bath was used with good effect. The fits became less frequent, though almost equally severe when they did occur. The valerianate of zinc and galvanism were then added to the cold bath, and due regulation of the bowels. I now, moreover, began to touch the glottis with a solution of one scruple of nitrate of silver in an ounce of water. This was continued regularly every day for a fortnight, and afterwards for some weeks with longer intervals between the applications. By the middle of February, the fits had quite changed their character, being more like short faints than the regular convulsive paroxysm; and they have since then occurred very much less frequently. The patient has greatly improved in general health, and in activity of mind; and she has lost much of that dread of the disease which formerly rendered her existence miserable.

It is very true that this is but a single instance, and that the present favourable state of the patient may not be permanent. Yet, seeing that the remedy has, even in one case, been followed by such admirable results, seeing that it is in itself most innocent, and so reasonable in theory, surely I am warranted in suggesting it for trial by my fellow-practitioners. Nor ought it to be forgotten that, although I can only at present furnish one instance of its efficacy in curing epileptic laryngismus, abundance of proof might be adduced, to show its power to subdue laryngismus in other cases. In those of hooping cough alone, since I first proposed this plan in the *Edinburgh Monthly Journal of Medical Science* for 1849, I have treated to a conclusion some fifty-seven cases; and M. Joubert, of Cherion, has treated sixty-eight. (See *Edinburgh Monthly Journal* for March, p. 256.) Now, in all these hundred and twenty-five cases of hooping cough, the laryngismus was speedily cured, except in *eight* cases, which resisted the treatment, but were none the worse for it; for not one death occurred among them.

It may likewise be objected to the proposal I have made in this short paper, that the topical treatment of the larynx is carried too far in the present day; that it is supposed by some to be capable of curing almost every laryngeal affection. Now, I am as much opposed as any one can be to this indiscriminate use of the topical, or of any other

plan of treatment. But let us not, on account of the erroneous application of a remedy, shut our eyes altogether to its virtues in appropriate cases. From no inconsiderable experience of the application of solutions of nitrate of silver to the larynx, I am quite convinced that it will assist most materially in the reduction of œdema of that organ, whether acute or chronic, in the removal of any of the numerous varieties of asthenic inflammation of its mucous lining; and lastly, that it will, by a prolonged employment, free the patient from susceptibility of laryngismus.

But need I say, that neither the solution of caustic, nor any other local remedy can be relied on, if used alone. Were I indeed able to agree with Dr. Marshall Hall, that laryngismus is the essential cause of the epileptic convulsions, then I might say that the means proper for its removal constitute the rational treatment of that disease. I am not, however, in this position; and while I grant the importance of laryngismus as a cause of formidable symptoms, I regard it as the effect of a previous morbid agency, of the precise nature of which we are totally ignorant. But this we know, that in all cases of epilepsy, the general health is, in the commencement of the disease, much and variously disturbed, and that, during its whole future course, frequent derangements of the digestive and vascular systems are most apt to occur. Whether this may arise from the organic nerve participating in the vitiation of the cerebro-spinal system, or whether the disease be essentially one of the former system of nerves affecting the brain and medulla only secondarily, by causing abnormal nutrition of their substance, it is not our present purpose to inquire. It is sufficient that such derangements exist; they ought not to be neglected in the treatment of the disease, more especially as we cannot trust to any measures directed against the supposed seat of the morbid cause.

My object in making the preceding remarks has been threefold, viz.:

1. To assent to the following modification of Dr. Marshall Hall's theory of epilepsy, viz., that laryngismus is an early occurrence in every severe epileptic seizure, and that it is the essential cause of much that is formidable therein.
2. To state it as my opinion, that Dr. Hall is entitled to the gratitude of the profession, especially in this instance, for having directed attention to an organ, derangement of whose functions is one, if not the chief, cause of danger to the epileptic patient; an organ, moreover, which lies within reach of efficient remedies. And,
3. To propose, as a substitute for tracheotomy in the less urgent class of cases, the application of a solution of nitrate of silver to the interior of the larynx, with the view of exhausting the excitability of the laryngeal nerves, and thus rendering the patient, in a longer or shorter time, insusceptible of laryngismus.

Glasgow, June 1852.

INFANTILE PHLEBITIS OF UMBILICAL VEIN, WITH PURULENT DEPOSITS.

By L. E. DESMOND, Esq., A.B., M.R.C.S.I., one of the Surgeons to the Liverpool Lying-In Hospital.

HAVING seen the case of Phlebitis of the Umbilical Vein published in the May number of the LONDON JOURNAL OF MEDICINE, I think it may not be uninteresting to report another case of this comparatively rare disease, occurring about the same time; and to contrast them with one another.

Dr. Herapath has the credit of diagnosing the disease during life; which I did not do, having never met with a case of the kind before.

On comparing them together, many points of similarity present themselves, sufficient to mark the diseases as identical; while some of the most usual features, as laid down by authors, were absent in mine.

The notes of the *post-mortem* appearances were taken at the time, by my friend and colleague, Mr. Grimsdale, who assisted me, and who took much interest in the case.

CASE. An infant was born on 20th January, 1852, in the Liverpool Lying-in Hospital. Its mother (said to be eight and a half months pregnant) was brought in with puerperal convulsions, twenty-four hours before delivery. The child was puny, and never appeared to thrive. The funis separated on the fifth day, leaving the umbilicus perfectly healed. This was noticed at the time by the nurse.

The first symptom that attracted any attention, was some derangement of the bowels on the eighth or ninth day; stools mixed green and yellow; with griping. The child whined much, and seemed uneasy. A carminative alkaline mixture was prescribed. On the twelfth day (just seven days after the separation of the funis), a red, inflamed fluctuating tumour, which gave the child much pain on handling, was perceived on the back of the left hand; and on the following (thirteenth) day, a similar tumour appeared on the other. Subsequently, a pale ill-defined swelling, about the size of an almond, formed on the right inner ankle. These had the wet flannel bandage applied; and they continued very much in the same state till the child died, on the eighteenth day.

It is to be remarked, that this child was naturally of a dark and rather sallow complexion, which it inherited from its mother; was never jaundiced; had no vomiting; and sucked greedily what little milk its mother had for it, till within twenty-four hours of its death.

On a *post-mortem* examination, the following appearances were noted. On opening the abdomen, the peritoneum, and indeed all the viscera, appeared healthy; but on slitting open the umbilical vein, which readily admitted an ordinary-sized silver blowpipe, it was found to contain thick, curdy, yellow pus; but its lining membrane was pale, and exhibited no sign of inflammation: and on tracing it up to the transverse fissure of the liver, where it seemed dilated, a considerable quantity of healthy looking pus was found, which extended along the ductus venosus, but

could be traced no further, there being none in the vessels of the liver, nor any appearance of purulent deposit or infiltration in that organ. The gall-bladder was much enlarged, being two inches in length, and as thick as a man's thumb, looking very like a portion of intestine filled with air. The coats were very thin; and on being cut into, a quantity of fluid escaped, of a golden yellow colour, transparent, and viscid, very similar in appearance to the syrup of orange marmalade. The heart was healthy, the cavities empty; there was no pus in them. *The foramen ovale was closed.* The thymus gland was healthy, but rather small. The lungs were for the most part healthy, with the exception of a few patches of a dark colour, which could with difficulty be inflated: these were probably the commencement of disease in the organ, and, had the child lived long enough, would have ended in purulent deposit. There was no pus in any other organ or joint, with the exception of the three tumours above mentioned, one of which appeared in a cyst, probably a synovial bursa.

REMARKS. The points of similarity in these cases, are in the date of the attack (eighth or ninth day), with similar derangement of the bowels; the purulent deposits making their appearance on the twelfth and fourteenth days; attacking the joints on the hands and fingers in pairs; and the duration of the disease, the children dying on the sixteenth and eighteenth days; as well as the previous condition of the umbilical vein, containing curdy pus, patches of carnification in the lungs, but no pus in them or in the liver.

They differed in Dr. Herapath's case having jaundice, vomiting, and erysipelas; with a greater amount of purulent deposit, pus in the vena porta, and heart *with a patent foramen ovale.*

Like Dr. Herepath, I was much surprised at not finding any purulent deposit in the liver; as I had not then seen Dr. Hasse's allusion to the ten cases on record of this rare disease, in his *Pathological Anatomy*, where he gives the symptoms as "jaundice, vomiting, and erysipelatous inflammation surrounding the umbilicus"; in all of which the same fact has been noticed, no pus being found in the liver in any of them. I have not had an opportunity of referring to the reports of those cases, and consequently do not know to what extent purulent matter was found, nor the state of the foramen ovale.

While I confess that I am unable to give any satisfactory explanation of this absence of disease in the liver, I cannot think that Dr. Herapath's solution of the question is the correct one. He says, speaking of the foramen ovale, "had this aperture been closed, the intensity of the disease would have been shown in the lungs and liver, without doubt," etc.; and that its open condition "cleared up all difficulties". Now, here was a case, occurring about the same time, *with the foramen closed*, as was particularly noticed at the time by Mr. Grimsdale.

We must suppose the liver to be affected, either by the continuity of the hepatic branches of the umbilical vein, and the inflammation or pus gradually spreading along them, as along the ductus venosus; or, supposing those branches to have been closed and impervious at an earlier date (which I believe they are) than the umbilical vein itself, and *then* inflammation to have taken place, the only other road for pus to find its way to the organ, would be through the general circulation. The liver would be expected to take its share with other parts affected,

such as the lungs, joints, etc. And that the general circulation was so tainted may be inferred, both in Dr. Herapath's case and mine, from the carnification of the lungs, and the many purulent deposits in distant parts.

Perhaps the liver, playing such an important part as a depurating organ in early infantile and foetal life, may be the cause of this exemption; or, can it be, that this disease, like some others, affects the body differently at different periods of life?

I may mention that, just at the same period, several of the children born in the hospital were attacked with erysipelas; and subsequently, we had one mother with puerperal phlebitis, which proved fatal: and the connexion between the disease in the children and the phlebitis was considered so marked, that it was deemed necessary to close the institution for several weeks.

I have no remarks to offer on the treatment. Dr. Herapath's plan was certainly more in accordance with a correct diagnosis than mine; but I fear that, when the disease has advanced to purulent deposition, all treatment will prove unavailing.

Liverpool, June 1852.

BIBLIOGRAPHICAL RECORD.

PATHOLOGY OF THE HUMAN EYE. By JOHN DALRYMPLE, F.R.S. Fasciculus IX, (completing the work). London: 1852.

It has seldom fallen to our lot to undertake a more touching duty than that which we are now called to perform. A work reflecting credit on the profession has been brought to a successful conclusion; but it is wreathed with cypress, in place of being crowned with laurel. He by whose talent, whose skill, and whose industry, great results have been attained, is alike deaf to censure or to praise. The earthly tenement is in the tomb; but the immortal spirit is, we humbly hope, in those realms where the weary are at rest,—in those glorious mansions of immortality, where the good receive the reward of their faith and works.

Under such circumstances, a reviewer would be disposed to deal gently with a book, whatever its demerits; and in the present instance, we might mistrust our own impartiality, for, alas! he that is gone was our own familiar friend. But the progress of the work, from the commencement, has been a continued triumph; and its concluding number has, if possible, exceeded in beauty and fidelity all that have preceded it.

It is singular that neither the originator nor the completer of this publication should have witnessed its final success. The late John Scott had brought together a valuable collection of sketches, with the intention of publishing a work on the pathology of the eye. His failing health prevented this; and at his death, he bequeathed to his friend and colleague, JOHN DALRYMPLE, his collection of drawings, knowing his ability to execute this favourite project. How well the trust has been fulfilled, the work before us shows.

Ophthalmic practice has remarkably participated in the change which the practice of medicine generally has undergone, within the last five and twenty

years. We well remember the time when venesection, liberal cupping, or a profusion of leeches, were ordered as a matter of course in common ophthalmia; and we almost shudder to think of the salivations that were considered necessary to "knock down iritis." We have, happily, now fallen on pleasanter times; but it ought not to be forgotten, that the men who practically demonstrated the curability of these and other ophthalmic diseases by milder measures—who did away with heroic treatment, and were the pioneers to open up truer and juster views—were, mainly, Frederick Tyrrell, in the first place, and after him John Dalrymple. We are of opinion that full justice has not been done to Mr. Tyrrell; for, whatever the imperfections of his published work might have been, we are decidedly of opinion that the principles and practice laid down by him, formed the groundwork of the practice most approved in the present day.

In the prime of life and usefulness, Mr. Tyrrell was suddenly snatched away; and the mantle of fame, which had just descended on his shoulders, was transferred to those of his colleague, who, like him, has been too soon called from us. The public press and the medical journals have alike borne testimony to Mr. Dalrymple's worth; and here, we will only add, that he has left behind him an unblemished character and universal regret.

We have reviewed *seriatim* the fasciculi of this work as they appeared; and we shall, on the present occasion, offer some remarks on the general scope of Mr. Dalrymple's practice, before specially noticing the concluding fasciculus.

His remedies were essentially mild; no man was more adverse to harsh local treatment, or severe general measures; with him, it was a precept to lead nature, not to attempt to take her by storm. We will venture to say, that venesection was not prescribed by him six times in as many years, and that, with perhaps a few rare exceptions, the strongest local application to the eye was a solution of nitrate of silver, four grains to the ounce, one or two grains, however, being the average strength. The principle by which he was guided, was that of seeking and attacking the *fons et origo*—the lurking cause of every ailment; and this he was enabled to do with rare skill, by his high professional knowledge.

The first broad line of distinction drawn by him, was that between the robust inhabitants of the country, and the dwellers in large towns; the first bear active treatment well, and their ophthalmic diseases are more or less acute; but the wretched, half-starved Spitalfields weaver, or pallid artisan of the courts of London, needs totally different treatment. Tonics, restoratives, and good diet, are indicated; and these points Mr. Dalrymple well knew. A favourite combination of his was the hydrarg. c. cretâ with sesquioxide of iron,—an admirable form where a mild mercurial effect is required in a debilitated subject.

Another modification, again, is that applicable to what we call the higher orders—the class where luxury abounds, and where a constant round of gaiety and excitement strains the nervous system to fever pitch, after which comes reaction. Such persons bear depletion ill, but require the nicest management. Gout, derangement of the digestive or uterine organs, are almost invariably connected with their ophthalmic maladies; and local measures are of little avail, unless when combined with treatment directed to restore the functions of the over-excited and over-stimulated organs of nutrition, and of nervous influence. Here, again, Mr. Dalrymple's skill was apparent, and often carried success where more superficial observers had failed.

At a recent meeting of the Medical Society of London, Mr. Canton brought under the notice of the Society, as a diagnostic mark of rheumatic ophthalmia, a peculiar white deposit collected at the internal or external canthus of the lids. If we understood rightly, this was mentioned as an original observation. Mr. Canton is, we are well aware, the last man to do injustice to another, and he had doubtless overlooked the following passage, in the fourth

fasciculus of Mr. Dalrymple's work, which fasciculus was published in 1849. "The rheumatic type is well defined. Along the margin of the lids in figure iv, is observed a whitish line, which is, in fact, small bubbles or foam, into which the tears, mixed with increased mucus, are worked by the friction of the lids. This foam collects at the angles of the eyes, and has by some German writers been considered diagnostic of rheumatic or arthritic inflammation of the eye." In such cases, Mr. Dalrymple was in the habit of prescribing a combination of colchicum with bark and soda, with great advantage; and he preferred dry warmth, as a local application, to fomentations or collyria.

It has been stated by several modern authorities, that the cornea and iris are not invested with a serous membrane, and that the term *aquo-capsulitis* is improper. Mr. Dalrymple thought otherwise: "Though," says he, "it may be difficult to demonstrate anatomically, I myself have no doubt of its existence. The aqueous membrane may be shown by the microscope as an epithelium covering the posterior elastic lamina of the cornea—that layer so well described by Jacob, in an early number of the *Medico-Chirurgical Transactions*, and in Todd's *Cyclopædia of Anatomy*, and from which it essentially differs. That it exists also as a covering of the iris, I firmly believe; as the uveal membrane, it is demonstrable; and that it finally covers the anterior capsule of the lens, there are also ample grounds for assuming. In fact, though as difficult (but not more so) to exhibit, in some parts of its course, as the synovial membrane over the cartilages of joints, it yet exhibits under inflammation all the characteristics of a serous sac; and as such I shall at least comprehend it, in relation to the subject of *aquo-capsulitis* and *iritis*."

In operating for cataract, Mr. Dalrymple formerly employed Tyrrell's knife, but of late years adopted the sickle-shaped knife invented by Mr. Scott, with which he made the incision very neatly. He always used his right hand, sitting behind the patient for the right eye, in front for the left, and generally—always for the right eye—making the upper section: the recumbent posture was that preferred for the patient. He, like Mr. Tyrrell, used dry bandages, considering that the application of wet rags to the eye predisposed to rheumatic inflammation. So, unquestionably, it does, if continued too long; but we have seen the greatest comfort afforded by such application, during the first twelve or twenty-four hours after the operation. Mr. Dalrymple opened the eye on the third or fourth day, and decidedly objected to the severe depletion practised by the German school. Indeed, he was so well aware of the necessity of support in feeble constitutions, that in many instances he allowed generous diet from the first. The following remarks illustrate his views: "The proper subject of this operation (extraction) must be selected with care. The feeble, those with habitual cough, asthmatic or rheumatic subjects, should be avoided; also those of a very nervous or excitable temperament, or those labouring under extreme plethora or venous congestion. The great object is to secure primary adhesion of the corneal section. In the very feeble, or where the patient labours under venous congestion, the adhesive process is imperfect. In the former, the wound perhaps closes only at its extreme edges, the iris prolapses, and the cure is slow, incomplete, and the pupil more or less disfigured, and sometimes even closed. In the latter, extensive chemosis is apt to take place, and, from impeded capillary circulation, the cornea becomes opaque, and finally sloughs. In the strong and healthy, inflammation of an acute character may be set up, but this is more easily dealt with by our antiphlogistic resources; but beware how you spill a single drop of blood in the feeble or congestive subject, however red or swollen the eye or eyelids may appear. The rheumatic patient must not be operated on in cold or damp weather; for at these seasons a slow, painful, and often dangerous inflammation is set up, which seldom leaves the eye undamaged."

These remarks illustrate the principles which guided Mr. Dalrymple's management of cataract cases; and we may add, that he scarcely ever operated between the months of October and May, or if possible during the prevalence of an easterly wind.

The large amount of operating practice enjoyed of late years by Mr. Dalrymple, presented to him many singular cases; one especially occurs to our mind, in which we were both fairly puzzled. The operation of extraction was in progress on a highly nervous irritable lady: the moment the section was completed, out shot aqueous and vitreous humour so liberally, that it was very evident the curette would not be required; but where was the lens? We searched in the patient's neck, in her lap, in our own sleeves,—but nowhere could it be found. Whilst looking at each other with great perplexity, the patient (who had been directed to keep her eye gently closed, and on no account to open it) complained that there was something very uncomfortable under her lower lid; and there, on looking, we found the cataract firmly packed between the lid and the eye!

The last number of Mr. Dalrymple's work is devoted to MALIGNANT DISEASES OF THE EYE, and the plates vividly pourtray the horrible ravages of these maladies. The most important feature is perhaps the following expression of opinion as to the propriety of operation or non-interference,—a vexed, but very important question. "It has unfortunately fallen to my lot to witness and watch a large number of these cases; and whenever a *post-mortem* inspection was permitted, tumours were discovered in the course of the optic tract, about the base of the brain, or even upon the surface of the cerebellum. Even in those cases where no examination was allowed, the immediate symptoms preceding the death, such as convulsions or coma, pointed out the extension of the disease to the brain. I may also state that I have never known an instance where the disease has not returned, after extirpation of the eyeball, except in some rare cases of melanosis, and within so short a period as to make it doubtful if this operation had even succeeded in *prolonging* life. I assert, also, that this operation offers no security against the return of the disease, even when had recourse to in the very earliest commencement of the malady; for I have in my possession preparations taken from children dying of fungoid tumours of the brain, in the very first stage of the ocular disease, before any enlargement of the globe of the eye had taken place, and while the fungoid matter was still limited to the posterior portion of the organ. I may therefore be permitted to add, that in no case of genuine medullary fungus of the eye would I either perform, or sanction by my advice, the extirpation of the eyeball."

The testimony of such a sound observer is valuable, and adds additional weight to the feeling for non-interference by operation, decidedly gaining ground. For ourselves, we heartily concur with Mr. Dalrymple, believing that the very act of cutting out an eye diseased with medullary sarcoma or fungus hæmatodes is a grievous shock to the system, reduces the already feeble strength, and in reality hastens the fatal event it is intended to ward off. Again, in our author's words, "meddlesome practice may be very destructive of the comfort of the patient, and even accelerate the fatal termination. All attempts by escharotics or specific applications are worse than useless; irritants rouse the tumour into activity, and increase the lancinating pains. Our aim must be to soothe and to sustain the power of the patient, and to smooth his downward path to death."

The concluding paragraph of the volume is so characteristic of the kindly spirit and honourable mind of the amiable writer, that we cannot refrain from quoting it. It seems like a voice coming from the grave, speaking in the spirit of Christian charity.

"If the writer has unintentionally misrepresented the opinions of any author, he will be deeply sorry; and that he has done so in one instance, at

least,—viz. as to the thickness of the apex of the conical cornea,—he is ready to admit. To Mr. White Cooper he feels it due to make this *amende*; and it will best repair the error, to refer his readers to an excellent monograph on this subject, lately published by Mr. Cooper.¹ In the explanation to plate xix, the author has also been in error, in attributing the practice of administering turpentine in iritis to the *late* Mr. Carmichael of Dublin, instead of the present very intelligent Mr. Hugh Carmichael of the same place.”

With sadness we take leave of this work, the progress of which we watched with interest, and to the completion of which we looked forward with pleasure. It had firmly established the reputation of its author, and had widely extended an accurate knowledge of ocular pathology. To Mr. William Bagg, by whom the drawings on the stone were executed; to Mr. Sherwin, by whom they were coloured; and to Messrs. Hullmandel, to whom the delicate process of printing the plates was confided, all praise is due: whilst the publisher may well be proud of having issued such a work.

Had it pleased the Supreme Being to spare Dr. Dalrymple's life but a few short months longer, the chorus of praise which now greets the completion of this great work would have fallen gratefully on his ear. But it was otherwise ordained; and the gladness of this event has been darkened by the shadows of the author's tomb.

TRANSACTIONS OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION, vol. xviii. pp. 358. London and Worcester: 1851.

The annual volume of *Transactions of the Provincial Medical and Surgical Association* may be regarded as an index, in some degree, of what our provincial brethren are capable of doing towards the advancement of medical knowledge. The articles furnished are mostly of a practical or simply descriptive character; and though the writers do not always parade the histological knowledge of a Lebert or a Hughes Bennett, or the zoochemical research of a Liebig, a Franz Simon, or a Golding Bird, their several essays are valuable contributions to that series of accumulated facts, on which alone we can hope to found a superstructure of medical science.

The volume before us contains twelve papers; of which we will give the titles, with a short comment on, or abstract of, each.

I. REPORT ON BURNS AND SCALDS. By SAMUEL CROMPTON, Esq.; with an APPENDIX, by G. W. CHARLETON, Esq. Mr. Crompton here gives an analysis of the answers given to queries submitted to numerous practitioners, on the subject of treatment of burns and scalds. As a collection of opinions, and of the result of the experience of each individual, the article is highly interesting and instructive. Mr. Crompton adds some excellent comments of his own: he believes that the substances applied to burns, which usually are supposed to exclude the air, in reality act by being non-conductors of heat and electricity.

II. THE ADDRESS IN MEDICINE; being an Essay on Associated and Secondary Diseases, read at the Meeting at Hull, in August 1850. By HENRY COOPER, M.D. Complications of disease are to be carefully distinguished from symptoms or sequelæ; and Dr. Cooper lays down, as a distinctive character, that “it is essential to a true complication, that it should be capable of existing, and should be recognised, as a distinct and independent disease, and not only as an accident or indication of other diseases”. The facts bearing on this subject are arranged by the author in four divisions. In the first, he places “those associated diseases which owe their connexion to direct mechanical causes, to proximity, or to the diseased organs being associated in function; and the consideration of these is subdivided according to the sea

¹ LONDON JOURNAL OF MEDICINE, May and June 1850.

of the affection". Secondly, he takes "those complications of disease which are effected through the blood, and which, in fact, embrace by far the greatest number and variety of these combinations; and the same local sub-division is adopted here as in the first division". Thirdly, he considers "the associated diseases of the nervous system, with the same sub-division". And lastly, he enumerates "those diseases or morbid conditions and tendencies of the system, which are held to be mutually exclusive or antagonistic". The address is worthy of a careful perusal.

III. OBSERVATIONS WITH HUTCHINSON'S SPIROMETER. By C. RADCLYFFE HALL, M.D. Dr. C. R. Hall has paid much attention to the subject of spirometry; and the result of his labours are here exhibited to us. In concluding, he states the following "provisional propositions", to be confirmed or refuted by further inquiry:—

"1. The close connexion between the vital capacity and the stature, which constitutes Dr. Hutchinson's greatest and very important discovery, throws into the shade its other relations; yet size of chest, as measured by its circumference, does appear to exercise an influence, when nullified by, or existing with, a small thoracic mobility. 2. Narrow chests more constantly possess a full mobility than broad ones, both being healthy. 3. Consequently, both size and mobility are to be taken into account in estimating the significance of the vital capacity; for if a large chest, with a large mobility, present even a moderate vital capacity, this may virtually imply greater defect than a smaller vital capacity in a chest of the same size, but which normally possesses a smaller mobility. 4. The only *exact* standard for any individual being his own normal vital capacity when in health, and this being rarely ascertainable, we must be guided by what we can learn of departure from it, by examining the chest and its amount and kind of mobility, in connexion with the vital capacity, rather than by the actual degree of deviation of the vital capacity from the standard quantity laid down. Thus, a given deficiency, taken in conjunction with any other ground of suspicion, adds force to the latter; but in the entire absence of such, taken alone, it does not necessarily indicate anything abnormal. 5. The limit of deficiency from the standard quantity laid down, which is consistent with health, cannot be stated with precision. It is probably a variable quantity, special in every individual. I apprehend that the limitation to 16 per cent. will be found too low in adult males, and considerably too low in females. 6. Dr. Hutchinson may not intend his standard scale of vital capacity to be applied to females, or to males, before the completion of visceral growth. For both these classes the standard is too high. 7. When a deficient vital capacity coexists with any cause of impatience of holding the breath, or with hurried breathing on slight exertion, which is not on other grounds referrible to the lungs, it does not by itself necessarily indicate disease of the lungs. This, which is but a truism in the case of ovarian dropsy and such-like causes of dyspnoea, also applies to cases of anæmia and of chronic disease of the liver, in which a small vital capacity need not by itself induce suspicion of tubercle of the lungs. 8. When the evidence furnished by the spirometer is distinctly favourable, it is valuable, trustworthy when taken singly, and needs no qualification. But, when the evidence appears to be unfavourable, although still valuable, it is not trustworthy when taken singly, but requires to be carefully checked by every other means of diagnosis, more especially by the use of the chest measurer, before we can justly deduce from it the existence of any deviation from health." (pp. 187-8.)

IV. ON THE PROGNOSIS IN MENTAL DISORDERS. By JOHN CONOLLY, M.D. This is a highly valuable contribution. The prognosis of insanity is a subject on which very little has been written; and on which, consequently, very obscure and incorrect ideas are often maintained. Dr. Conolly has expressed

much in a few words; but we will endeavour to give a summary of the circumstances under which recovery may be regarded as probable or as hopeless.

The prognosis is mostly *unfavourable* in the following circumstances:—Structural disease of the brain or its membranes; cases of insanity occurring in children under ten or eleven years of age; cases occurring at puberty in young men, especially when there is a perversion of the moral character; cases in persons aged about fifty or fifty-five, associated with some idea connected with sexual feelings (somewhat unfavourable); occurrence of frequent paroxysms of mania in young persons of either sex, without manifest disturbance of the general health, and with intervals of rationality; cases in women, connected with obscure uterine causes, continuing throughout life; cases of acute mania, if they have continued more than a month (Esquirol); the occurrence of epilepsy during mania, especially if repeated; the supervention or persistence in long-standing cases of illusions of hearing and seeing—incoherence of language—delusions as to persons and places, and as to rank, riches, or poverty—also dirty habits; general paralysis of the insane; change of character, followed by general paralysis; melancholia at about forty-five or fifty years; alternations of melancholia and excitement; the occurrence of mania, talkativeness, and restlessness, in patients who have long been melancholic, inactive, and silent; regular intermittence of the disorder; rapid pulse and fever in puerperal mania; repeated attacks of mania from intemperance; insanity occurring after many years from falls or blows on the head; insanity from over-great mental exertion, or from violent mental impressions; cerebral excitement in hot climates, especially if continuing after a return to England; insanity in a family where pulmonary consumption or scrofula has appeared; cases attended with dropsy, jaundice, erysipelas, or heart-disease; the supervention of general debility during insanity; mania resulting from thickening of the membranes, or excitement of the brain, following fever; great increase of fatness attending increasing feebleness of mind; monomania appearing for the first time in men or women of forty or fifty years of age; cases occurring after the age of seventy; cases of mania and melancholia, in which patients have been largely bled; and finally, violent restraint, and other acts of mismanagement, put the maniacal patient into the most unfavourable position for recovery.

The prognosis may be considered more or less *favourable* when the under-mentioned conditions are present:—cases of imbecility or idiocy in children, much more favourable than generally expected, as shown by the result of the attempts to educate idiotic children; cases occurring in men when about to marry; cases occurring in young women at puberty—the symptoms amending with the establishment or restoration to regularity of the uterine functions; acute attacks of mania or melancholia from the age of 20 to 45 or 50—the most sudden and violent attacks being most favourable; religious delusions in women of various ages, generally connected with ovarian or uterine disorder; melancholia in women of 45 or 50; melancholia in young persons; partial return of consciousness, with violent weeping, in maniacal patients when beginning to recover; cases of puerperal insanity; melancholia and delirium connected with plethora or anæmia; the supervention, in some cases, of ulcer or some local disorder; and the appliance of rational treatment, and attention to the patient's comfort, in an asylum, will do much to render the prognosis favourable.

V. ON EMPIRICISM. By JONAS MALDEN, M.D. This essay was read at the meeting at Brighton in 1851; and we are glad to find it preserved in the *Transactions*. Much has been done towards the purification of the medical profession from false brethren, by the energetic proceedings of the meeting at Brighton; and we trust that an equally numerous congregation of members at the assembly about to be convened at Oxford, will ratify the bye-laws

regarding homœopaths and mongrel practitioners, which will be then submitted by the Committee on Irregular Practice.

VI. THE ADDRESS IN MEDICINE: delivered at the Nineteenth Anniversary Meeting, held at Brighton, August 1851. By WILLIAM KING, M.D. Dr. King first gives an account of the hygienic conditions of Brighton and the neighbourhood; and then compares the former state of medicine with the present.

VII. ELEPHANTIASIS OF THE SCROTUM. By WOTTON ISAACSON, Esq. This is an extremely rare disease in temperate climates. The subject of the present history was a farmer in the county of Huntingdon, who died in 1847, at the age of 81. The tumour commenced about 1830, but did not attract much attention for five years. In March 1845, the greatest circumference was fifty-one inches; and from the neck anteriorly across the base to the neck posteriorly measured thirty-two inches.

VIII. CASE OF ELEPHANTIASIS GRÆCORUM. By THOMAS GODFREY, Esq. The patient was a lad, aged 14, the son of Arabian Jewish parents, but born in Calcutta. The disease first appeared six months after his arrival in England.

IX. ON THE NATURE AND TREATMENT OF THOSE DISEASES OF THE EAR, which have hitherto been designated OTORRHEA and OTITIS. By JOSEPH TOYNBEE, Esq., F.R.S. Mr. Toynbee classifies the diseases of the ear according to their occurrence in the meatus externus, membrana tympani, cavitas tympani, or labyrinth; and in each of these situations the character varies according to the tissue affected. The paper is a valuable contribution to our knowledge of the pathology and treatment of an ill understood and troublesome class of diseases.

X. ADDRESS IN SURGERY, delivered at the Nineteenth Anniversary Meeting. By BENJAMIN VALLANCE, Esq. This is a *resumé* of the most interesting cases of surgery related in the periodicals for the few months preceding the meeting. If the editors of the Journal of the Association were to give frequent articles on this plan, they might at a small amount of labour do a large amount of good.

XI. ON THE CAUSES OF MORTALITY AFTER AMPUTATION OF THE LIMBS. By J. H. JAMES, Esq. Mr. James here examines into the mortality after amputation for disease, viz., for diseased joints; necrosis and caries; old ulcers; malignant diseases; chronic sphacelus, and sphacelus senilis; acute suppurative inflammation; useless limbs and conical stumps; various other diseases. He offers the following remarks as fair conclusions.

"That amputation, (especially of the upper extremities), is an operation, *per se*, little fatal when well performed, when the case is carefully attended to, when no after-hæmorrhage or other important contingency affects the result; but that injury or disease will cause a material difference, if they have affected the general system prior to the operation, and in proportion to the degree and mode in which they have done so. That grave injuries do this at the time of their infliction, and independent of every subsequent inflammatory action; although, when this arises, it increases it in a greater or less degree, according to the character of that inflammation and the treatment adopted. They rank first in regard to the mortality. That diseases of a particular class,—for example, those which may have recently contaminated the constitution, as acute gangrene (not arising from external injury), or acute suppuration, and long existing ulcers,—will also be the cause of a large share of mortality. In other cases of disease, although very severe in themselves, and complicated with such affections of other organs as may eventually cause the death of the patient, yet, the system not being thoroughly contaminated, amputation is much less fatal." (p. 338.)

XII. AN ESSAY ON THE PRESENT TYPE AND CHARACTER OF DISEASE, as contrasted with its General Features in the Early Part of the Present Cen-

tury. By CALEB WILLIAMS, Esq. Mr. Williams gives an interesting account of some of the alternations of *sthenia* and *asthenia* in the type of diseases, which have been observed to prevail at different periods; and contrasts the type of diseases, as prevailing thirty or forty years ago, with what is observed at the present day. The paper is evidently the production of an enlightened and observant practitioner.

CYCLOPÆDIA OF ANATOMY AND PHYSIOLOGY. Edited by ROBERT B. TODD, M.D., F.R.S. Parts XL, XLI, and XLII. London: 1850, 1851, and 1852.

We are glad to see that this work is approaching its termination; and that the SUPPLEMENT is soon to be commenced. The parts before us contain several excellent articles; but we regret that our limited space only permits us to mention a few of them. Some of those passed over in silence are not inferior in merit to those noticed. We make this statement in justice to their respective writers.

TOUCH. By DR. CARPENTER. In this ably written article, the author passes in review the principal manifestations of the general sensibility of the body, and the conditions under which they occur; and then proceeds to the investigation of the sense of touch. The subject is treated of under the following heads: Special Organs of Touch; Conditions of Sense of Touch; Tactile Discrimination; Sense of Temperature; Muscular Sense; Sense of Weight; Sense of Direction; Mental Phenomena connected with the Sense; Improveability of the Sense of Touch; Morbid Conditions of the Sense of Touch. The author has here produced an article worthy alike of himself and of the *Cyclopædia*.

URINE. By DR. G. OWEN REES. Dr. Rees has furnished a very complete abstract of all that is known with regard to the urine.

VARIETIES OF MANKIND. By DR. CARPENTER. In common with most of those who have in late years written on ethnology, the author's observations have led him to distrust the arguments brought forward against the unity of the human race. Considerable importance is attached by him to the fact that the descendants of one stock are capable of assuming the form of another, as exemplified in the cases of the Turks and Magyars, who, although of pure Mongolian descent, have acquired the European form of skull and features.

After examining into certain anatomical and physiological facts relating to the unity of the human race, or its division into distinct races, Dr. Carpenter makes some interesting observations on the psychical comparison of the various races of mankind. The general results which may be adopted from the information acquired on this subject are as follows:—

“In all the races of mankind, with which any adequate acquaintance has been gained, unequivocal indications may be discovered of the same moral and intellectual nature as that which the most civilised tribes exhibit; and these indications become more obvious, the more complete is our knowledge of their habits, not merely of action, but of thought. We can trace, in short, among all the tribes who are endowed with the faculty of articulate speech, the same rational human nature; superior to that of the highest brutes, not merely in the complexity of the processes which it is capable of performing, but in that capacity for generating abstract ideas, and thus arriving at general principles, which, so far as we have the means of judgment, appears to be the distinguishing attribute of man. So, again, we discover in all of them the same elements of moral feeling; the same sympathies and susceptibilities of affection; the same conscience, or internal conviction of accountability, more or less fully developed; the same sentiments of guilt and self-condemnation; and the same desire for expiation. These principles take very different forms of expression, even in civilised life; much more, therefore, ought we to be prepared for finding nothing more, even among

the best specimens of civilised barbarism, than the mere rudiments of a higher understanding, and of a nobler moral nature, than that which they have at present reached. But the rudiments are there, though not always in the same degree of forwardness for being moulded to the institutions of a more regular society, for the development of the intellectual powers under a rational education, and for that growth of the moral and religious sentiments which Christianity is pre-eminently fitted to promote in every mind that opens itself to its benign influence." (p. 1345.)

In the philological department of the question, Dr. Carpenter avails himself largely of the researches of Dr. R. G. Latham.

We can only say more, that Dr. Carpenter has here given us an interesting and instructive contribution to ethnology.

VISION. By W. WHITE COOPER, Esq. In the portion of this article which is devoted to normal vision, Mr. White Cooper does not furnish any original observations; but he gives a concise and clear view of our present state of knowledge of the subject.

In treating of abnormal vision, he gives the fullest account we have in the English language of the defects of this faculty; and he appears to have brought prominently forward certain disordered states, of which our knowledge has as yet been imperfect. Abnormal vision is divided by Mr. Cooper into—

"1. Abnormal vision resulting from defective action of the retina or sensorium; as *Achromatopsy*, *Hyperchromatopsy*, and *Anorthopia*.

"2. Abnormal vision arising from faulty configuration of the eye, or from changes in the refractive media; as *Myopia*, *Presbyopia*, and *Cylindrical Eye*."

ACHROMATOPSY, or insensibility of the eye to colours, is a condition which has hitherto been very imperfectly and curtly treated of by English writers. Cases have from time to time been published in the *Philosophical Transactions*, and other scientific works; yet our knowledge of the phenomena is of recent date, and is chiefly due to the labours of Wartmann, Seebeck, Szokalski, Purkinje, Himly, etc. Mr. Cooper classifies the cases as *congenital* and *non-congenital*; the former is always persistent; the latter may be either permanent or temporary. He further adopts the simple arrangement proposed by Wartmann, who recognises two classes, according to degree—the *dichromatic*, and the *polychromatic*. The *first* class (dichromatic Daltonism of Wartmann) includes those cases where black, white, and the intermediate shades of grey, are the only tints recognised. The *second* class (polychromatic Daltonism of Wartmann) includes the vast majority of cases of insensibility to colours. Several instances of this affection are referred to—among them being that of Dalton, who has given his name to the affection. The following numbers express how many times each tint (excluding differences in brilliancy) is proportionally seen without error: red 37, orange 12, yellow 100, green 59, blue 100, indigo 0, violet 0. Hence it appears that the insensibility to indigo and violet is greatest, while yellow and blue are most commonly recognised.

Non-congenital achromatopsy may be either permanent or temporary; and Mr. Cooper enters very fully into the consideration of the latter form, as he believes that it has not received the attention it merits. The exciting causes of temporary achromatopsy are congestion, hepatic derangement, and dyspepsia: and it may exist in conjunction with amaurosis, or by itself, as a simple derangement of vision. Mr. Cooper illustrates this portion of the subject with several cases, of which we will quote one, as an example of the manner in which achromatopsy may be excited.

"**CASE.** Mr. H., a solicitor, aged 37, of a spare make, and melancholic temperament, is frequently subject to attacks of congestion of the liver, followed by vomiting and purging of bile. These attacks are ushered in by dull pain in the head, and tenderness of the eyeballs, rendering motion of them distressing. At such times, he is quite incapable of distinguishing

colours, all objects being simply divided into two classes, black and white, with their intermediate tints of grey. The vision of objects continues perfectly distinct; but it is not till after the portal system has been relieved, that the perception of colours is recovered, and then yellow is the first distinguished. If, however, he takes five grains of calomel, the attack is cut short, and the power of discriminating colours at once restored. There is nothing whatever unusual about his eyes; and, under ordinary circumstances, he possesses perfectly natural vision." (p. 1459.)

The cause of achromatopsy is obscure. Professor Wartmann is inclined to attribute it to an abnormal elasticity of the retina; so that, for example, the vibration caused by a ray of red is identical with that caused by a green ray.

HYPERCHROMATOPSY. The characteristic of this condition is that of attaching colours, not only to objects which commonly possess them, but also to other objects, which have no pretensions to them. Our knowledge of this singular affection is very limited; and is derived principally from the writings of Dr. Sachs and Dr. Cornaz. Professor Wartmann, of Geneva, has also informed Mr. White Cooper that he knows two persons affected in this way; and hopes at some period to be able to publish some researches on the subject.

Dr. Sachs is himself affected with hyperchromatopsy; and the following description of his perceptions, which we quote, is the most minute which has appeared:—

"The objects to which colours especially connect themselves in this condition of vision are figures, dates, the days of the week, the letters of the alphabet, and musical notes. These colours are not all equally distinct: the clearest are yellow, different shades of pure white and blueish white; the less clear are orange, red, dull white, dark blue, brown, and green. Black only attaches itself to one of the letters of the alphabet. This morbid sensibility to colours thus displays itself:—A and E are red, but the first has more of the vermillion tint, the second most of the rose. I is white, O orange, U black, and is the only example of black; UE or Ü is white, so is M and N. C is of a pale ash colour. D is yellow. F. of a dull white. H a blueish ash colour. K approaches deep green. S is of deep blue, and W is brown.

"Musical notes indicated by the names of the letters ^CDo ^DRe ^EMi et cætera, present generally the same colours as these; however, whilst in the alphabet, B and G appear almost colourless, the *S* flat appears of an ash grey, and the *Sol* of an uncertain green.

"Of figures, 0 is almost transparent, of a pale and uncertain yellow, 1 of an undecided white, 2 of an uncertain tint, 3 almost ash coloured, 4 minium red, 5 yellow, 6 indigo, 7 blueish white, 8 brown, 9 almost deep green. The numbers composed of several figures take the colours of the last forming them. 0 does not change the colours of the figures to which it is joined, but gives to them a certain appearance, whilst a figure often repeated in the same number causes the colour proper to it to increase in intensity. 10, 11, 100, 110, and 111 are white; the first of them resembles white glass, the second is milk-colour, the third semi-transparent white; the two last perfect white. 14, 24, 40, 44, 400, and 440 are red, but 15, 25, 50, 55, 500, 555, and 1000 are yellow; why the 1000 is yellow whilst 100 is white we do not understand, as the additional 0 does not account for it.

"*Sunday* is, to the eyes of this conscientious observer, white slightly tinged with yellow. *Monday*, another shade of white; the colour of *Tuesday* is obscure and undecided. *Wednesday* is yellow; *Thursday* is of a yellowish green, verging towards orange. *Friday* is of a dull white, and *Saturday* is of a blueish ash colour.

"It is stated that the abnormal sensations of colour are so intimately connected with these objects, that some can only be seen without them by a strong mental effort, and that in the case of others this does not suffice." (p. 1462.)

ANORTHOPIA. This condition of vision is described by Mr. White Cooper, (who, we believe, is the first who has specially noticed it), as an inability to discern when objects are not parallel; and it is often accompanied by want of power to recognise symmetry. It is common in Negroes. In children, Mr. Cooper recommends the practice of writing on ruled paper, and subsequently on ordinary paper placed straight before them; and the study of geometry, and other branches requiring attention to symmetry, are likely to be of service.

MYOPIA AND PRESBYOPIA are ably treated by Mr. Cooper, who has devoted much attention to these disorders of vision. His rules for prophylactic treatment, and for the use of glasses, are highly judicious. In myopia, the use of spectacles should be delayed as long as possible; and when they are required, the lowest available power should be employed. The following rules we think worthy of attention.

"Myopic persons, generally, should remove objects they are regarding as far from them as possible, and should avoid small type, minute writing, and microscopical investigations. The use of a high desk is very important, not merely as tending to prevent oculo-cerebral congestion, but also pain in the chest, which is often caused by stooping; and, as a general rule, all near-sighted persons, of whatever age, should exercise the eyes, when in the open air, by endeavouring to make out distant objects.

"There is a simple plan which persons who write or read much should adopt, as being highly serviceable in preserving the powers of their vision. It is that of raising their eyes from their work at short intervals, and fixing them upon the cornice of the ceiling at the further end of the room, and if there be a pattern, making it out. This exercises the eyes at the focus for distant objects; and, simple as it is, is of great use in preventing nearsight.

"There is a form of myopia of which we have seen several examples, and which is deserving of attention. It occurs in young persons, and leads to unmerited punishment. The youth does not hold his book so near the eyes as to attract attention, and reads fluently at perhaps eight or ten inches; but he cannot see objects distinctly at twenty feet. Such young persons have been brought to us under the impression that they were "shamming"; but careful investigation convinced us that such was not the case. Great responsibility attaches to the advice given in a case of this description, as on it depends much of the comfort of the individual during life. He should by no means be allowed glasses, as they would most assuredly confirm the mischief. His books should be of large type; he should frequently rest his eyes when studying; should be much in the open air; and the eyes should be often bathed with cold spring water." (p. 1465.)

The article is concluded with some remarks on **CYLINDRICAL EYE**, which depends on the curvature of the cornea being greater in the vertical plane than in the horizontal. This condition was first investigated and explained by the present Astronomer Royal—Professor Airey—who is himself the subject of the affection.

ON TRUE AND FALSE SPERMATORRHEA. By DR. PICKFORD, of the University of Heidelberg. Edited by Chirurgus. 8vo. pp. 82. London: 1852.

The swindling and villainy which are daily perpetrated in this capital by the filthy pseudo-medical men, who with the aid of the newspapers reach their prey, is pretty well known; but it is not by all practitioners that the full extent of the injuries inflicted, and the atrocity of the parties concerned, are adequately understood. Health is destroyed; large sums of money are extorted; and then, by the terrors of a blasted reputation, the victims are shut up to secrecy. In this predicament—with exhausted health and purse—the conscientious physician or surgeon is first brought into contact with a case, which at first was trivial and easily cured, but which will often be

found (from the mental and bodily agencies used to extort money and enslave the victim) to have become serious or incurable. We quite agree with the writer of this pamphlet, that the whole weight of the iniquity of this horrible traffic in life, rests upon the public, and upon the heads of families in particular, who allow the domestic circle to be daily polluted by the vile and venal newspapers which insert the lying, obscene, and luring advertisements.

The evil to which this pamphlet directs attention is surely within the possibility of great mitigation. Much good might result, were the Provincial Medical and Surgical Association to appoint an active and judicious committee to investigate the subject, and to act in concert with any committee appointed for that purpose by societies of clergymen and laymen, now existing, or which might be formed with a view to the reformation of this and other allied social evils.

ASYLUMS FOR THE INSANE. OBSERVATIONS UPON THE IMPORTANCE OF ESTABLISHING PUBLIC HOSPITALS FOR THE INSANE OF THE MIDDLE AND HIGHER CLASSES; with a brief Exposition of the Nature of Insanity, and the present Provision for the Treatment of the Insane. By THOMAS DICKSON, L.R.C.S.E., Resident Medical Superintendent of the Manchester Royal Lunatic Hospital, etc. pp. 62. London: 1852.

The object of this work will be readily understood from its title. MR. DICKSON proposes, as a remedy for the evils which have from time to time been detected to exist in many private asylums, "that Government ought to take the insane of all classes as immediately under its protection, as it has already taken the insane of the pauper class. To do this, it would be necessary that Government should undertake, or cause to be undertaken, the institution of Public Hospitals, which might not only be self-sustaining, but also capable of liquidating the outlay of their erection, and provide a fund for emergencies, as well as a fund to be called the 'Benevolent Fund', to be applied to the reduction of the charges of admission, for those whose circumstances might seem to warrant such an application of the surplus." (pp. 47-8.)

We recommend Mr. Dickson's proposals to the attention of our readers.

RESEARCHES INTO THE PATHOLOGY AND TREATMENT OF DEFORMITIES IN THE HUMAN BODY. By JOHN BISHOP, F.R.S., Member of the Council of the Royal College of Surgeons of England; Consulting Surgeon to the Northern Dispensary, etc. pp. 266. London: 1852.

This work is a reprint, with a few corrections and additions, of some papers published by MR. BISHOP in the *Lancet*. Treatises on the subjects here discussed are too often written in a popular, or rather a mongrel form, illustrated by successful cases, and by showy plates; but we are glad to find that the author repudiates such meretricious display. In his preface, he says:—

"The work is exclusively designed for the medical profession, and relates to a subject of great interest and importance, respecting which there is much uncertainty in speculation, and much empiricism in practice. The subject has been too often treated by medical men with neglect, as one of an inferior order, and devolving on the mere mechanician, to whom, in effect, the problem is commonly proposed for solution—Given a distortion, to discover an instrument that will cure it. It need not, therefore, excite surprise to find, as will be shewn, that means have frequently been employed, even by respectable practitioners, entirely at variance with the intrinsic nature of the case; so that, with the expectation of giving relief, useless torture, or deplorable mutilation, has, in many instances, been inflicted.

"The subject of deformity is here proved, on the contrary, to require the most careful research, and to present a field for the most elaborate mathematical investigation. The principles of treatment recommended are based

on mechanical and dynamical laws, which have received the assent of the most distinguished physical philosophers of the present day." (Preface, pp. vi, vii.)

After some remarks on the mechanical and chemical properties of bone, and a full consideration of the mechanism of the spine, and of the action of muscles, Mr. Bishop passes in review the various mechanical causes of distortion of the spine and limbs. He then treats of caries, rickets, and mollities ossium, as causes of deformity. The three last chapters are devoted to the treatment—or rather, to a critical examination of those means of treatment in common use.

We can recommend this book. The author has brought mathematical acquirements of a high character to bear on the pathology of a troublesome class of mechanical diseases; and, though his line of reasoning may be justly considered as too exclusively mathematical, we believe that his work will do much towards rescuing the subject of deformities from the hands of dangerous quacks and mere empirics.

HOMŒOPATHY AND THE HOMŒOPATHS. By J. S. BUSHNAN, M.D. 12mo. pp. 214. London: 1852.

This little volume contains an admirable analysis of the *Organon* of Hahnemann; and presents a complete and careful account of homœopathy. It is adapted alike for professional and popular perusal.

PRINCIPLES AND PRACTICE OF SURGERY. *Illustrated by Numerous Engravings on Wood.* 8vo. pp. 965. London: 1852.

PROFESSOR PIRIE has produced a work which is equally worthy of praise as an admirable text-book for surgical pupils, and as a book of reference for experienced practitioners. We rejoice to find that the chair of surgery is so ably filled in Aberdeen, as we believe that in that university the majority of the medical practitioners of the north of Scotland are educated, and that the army and navy derive very many of their surgeons from the same source.

Professor Pirie's work is clear and trustworthy. All recent improvements—real or pretended—are judiciously and candidly discussed.

HUNTERIAN ORATION, delivered before the Members of the Hunterian Society at the Thirty-third Anniversary, February 4th, 1852. By W. J. LITTLE, M.D., Physician to the London Hospital. pp. 34. London: 1852.

This address contains some very interesting information, historical and practical, regarding the transfusion of blood, and the injection of medicinal fluids into the veins in the collapse of cholera, and in other circumstances in which such means have been advised. The author states that in cholera alcohol may sometimes with benefit form part of the injection.

SYMPTOMS AND TREATMENT OF THE DISEASES OF PREGNANCY. By WILLIAM JOHN ANDERSON, F.R.C.S.Eng. pp. 119. London: 1852.

This is a very meagre and flimsy production. If books must be written as advertisements, let them not show the nakedness of the land.

CRITICAL DIGEST OF BRITISH AND FOREIGN MEDICAL JOURNALS.

[The Articles quoted or abridged are indicated by an asterisk.]

MONTHLY JOURNAL OF MEDICAL SCIENCE.

No. CXXXVIII; BEING FOR JUNE 1852.

1. PATHOLOGY OF MORBID GROWTHS. By CHARLES MURCHISON, M.D.
- 2.*INSANITY AS IT OCCURS AMONG THE INHABITANTS OF BENGAL. By THOMAS A. WISE, M.D.
3. MEDICAL TOPOGRAPHY OF THE WESTERN COAST OF AFRICA. By D. RITCHIE, Esq., R.N.
[Concluded(?) from May number.]
- 4 MEDICAL JURISPRUDENCE OF INFANTICIDE. By J. A. EASTON, M.D.,
Medical Officer of the Glasgow Police.
- 5*EXTRACTS FROM LECTURES ON CLINICAL SURGERY. By JAMES SYME, Esq.
6. REPORT ON FEVER. By JOHN HUGHES BENNETT, M.D.
[Concluded from April number.]

INSANITY AS IT OCCURS AMONG THE INHABITANTS OF BENGAL.
BY DR. T. A. WISE.

STATISTICS. DR. WISE shows by the following table that with the additional anxieties, nervous excitement, and higher mental culture of increased civilisation, we find an increased prevalence of insanity.

	Population.	Lunatics.		Per cent.
		Under Treatment.	Probable Actual Number.	
Island of Ceylon	1,009,008	125 ^{·1}	450	·00446
Dacca Circle	9,891,484	157 ^{·5} ²	2,000	·00202
England and Wales ..	17,905,831	13400 ^{·3}	13,400	·00754

From the author's remarks upon the *Exciting Causes of Insanity*, we quote the following very interesting notice of the use of

INDIAN HEMP AND ITS INFLUENCE IN CAUSING INSANITY. "The use of the preparations of Indian hemp, or gunjah,⁴ (*Cannabis Sativa*), has a much more pernicious influence on the mental faculties than opium or spirits, which are more transitory in their effect. Gunjah was well known, and its effects understood for many ages, in the South of Africa, in America, and in the greater part of Asia. It appears to have been employed in the temples of the ancient Greeks, for its intoxicating quality, and it is still employed for the same purpose by the Brahminical priests of India, and by the dissipated and depraved, more particularly of the lower class. With them it is supposed to be the ready agent to enable the person to bear hard and continuous labour without fatigue, to prevent the pain accompanying physical injury, to guard against insalubrious climates, and unhealthy seasons. It likewise produces pleasing and cheerful intoxication, and has other

¹ DAVIS, p. 35.

² Dacca Lunatic Asylum Returns.

³ Sir A. Halliday's Letter to Lord Seymour.

⁴ Which is the herb dried after flowering, and is usually sold in bundles, with the leaves crushed.

qualities which lead to its deleterious use—as it kindles the imagination, inflames the sensual passions, and the appetite for food. Some who use it state that it renders them more fervid in their devotions, circulates the blood, and clears the voices of singers. But it is also well known that a constant, or large consumption of it, makes the person unfit for business, and, if continued, produces insanity.

“When gunjah is employed as a luxury, it is used in combination with prepared, or dry tobacco leaf; each pipe-full (chillim) being filled up with from two to eight annas’ weight of the compound. Sometimes from twenty to thirty chillims are used daily. The cost is about one rupee and eight annas, the two pounds (Seer). Such is the quantity consumed, that three or four rupees a month are often spent by one individual on this deleterious drug; and such is the fascination, that to increase the gratification, the smoke is often passed into the pharynx and nostrils, and after remaining some time it is discharged.

“It is customary for several of these miserable votaries to meet at one of their houses, and sit on the floor in a circle; each then takes a draught of the hookah, which has been prepared with gunjah and tobacco, and hands it to his neighbour. Intoxication soon occurs, as it is stated that four or five mouthfuls are sufficient to intoxicate persons, even accustomed to the use of the drug. In my inquiries, in the Dacca Insane Asylum, as to the cause of such persons’ insanity, I found that of those who had formed the habit of using gunjah before admission into the asylum, and whose statement was confirmed in every case by relatives and friends, when that could be done, out of 286 that were in the asylum at the commencement, and were admitted during the year of report, 77, or nearly a third, had been rendered insane by the pernicious use of gunjah, to which the lower classes are so often habituated, from its agreeable intoxicating nature and cheapness. The effects, however, are after a certain dose transient, and are soon followed by great debility.

“The remarkable effect of gunjah is, that it in an agreeable manner excites or modifies sensibility, and combination of ideas, but it does not itself give origin to them. The enjoyment is entirely moral, and not like the gratification of amatory passion. It, by use, weakens the animal passion, memory, the power of voluntary control of the thoughts, or fixing the attention. By a great effort the mind can, for a moment, be restored to its original powers. The gunjah creates an increase of appetite, a moderate exhilaration of spirits, sometimes an intense sensation of happiness. In other cases, there is a weight of the head, and an uncomfortable sense of restlessness and palpitation of the heart. Occasionally the person exhibits a disposition to assume the recumbent position, and to bring the limbs and trunk together. In one case, the patient took a poisonous dose given by an itinerant beggar, to ensure the good-will of his neighbours. It produced intoxication and great heat of the body, which induced him to proceed to the river to bathe, when this disposition was so great that both his head and arms went under water, and he would have been drowned had he not been observed. In this case the single dose produced insanity, for which he was sent to the asylum; and it was three months before I could discharge him as cured.

“The religious mendicants are a great curse to India. One day I asked one of them, a notorious gunjah-eater, what was his occupation? Placing his hand on his stomach, he said, ‘Eating, and smoking gunjah.’ The dreadful cannabis! ‘But, what is your trade?’ He added, ‘To contemplate the great God.’ ‘And where is your home?’ He pointed downwards, and answered, ‘In the earth.’ The effects of gunjah are most pernicious. A young man, twenty-five years of age, was admitted on the 1st August, and discharged from the asylum on the 22nd, well. He was brought back in six days, much worse than he had been during his first attack. I found he had again indulged in gunjah, having taken five or six chillims daily. He recovered in three months; and requested to be allowed to remain in the

asylum, as he could not resist the longing desire for gunjah, and dreaded the fearful consequences. This is the usual course of these unfortunate individuals. They get well, and return to the old habit, as soon as they leave the asylum, and either die, or are sent back. During the year of report, of the seventy-seven patients, twenty-six were cured, and five died from bowel complaints. The others remained in the asylum. Several had been more than once there. It must be allowed that there other causes which, at the same time, aggravate the effects of the gunjah, such as exposure to the sun, bad food, unhealthy climate, and the irregular and bad habits of the individuals who are the chief sufferers.

"This opinion seems to be strengthened by the nature of the employment of those who are inflicted with insanity, and are now in the asylum for using gunjah. The lower class, such as labourers and domestic servants, and the idle and debauched fukeers, are, as the following statement shows, peculiarly subject to insanity from the use of gunjah.

Labourers (ryots)	...	...	...	...	...	...	...	28
Servants	...	...	...	...	...	...	...	15
Fukeers	...	...	...	...	...	...	...	17
								—60
Brass-workers	...	...	...	...	...	...	...	1
Tailors	...	...	...	...	...	...	...	3
Money-changer	...	...	...	...	...	...	...	1
Confectioner	...	...	...	...	...	...	...	1
Washermen	...	...	...	...	...	...	...	2
								— 8
Brahmuns	...	...	...	...	...	...	...	1
Farmer, or talookdar	...	...	...	...	...	...	...	1
								— 2
								—
								70
Trade unknown	...	...	...	...	...	...	...	7
								—77

"The artists seem to indulge less in the use of the drug, and in consequence suffer less from its effects. There were none of the more respectable natives in the asylum, as they indulge more rarely in the use of the drug, or may use it in a more disguised, and a less pernicious form, particularly as they are less exposed to the other exciting causes of insanity.

"Another curious fact is, that out of 233 males, 77, or 30 per cent., were insane, from the use of gunjah; whereas 8 out of 53 insane females, or 15 per cent. only, were insane from this cause. The difference may be accounted for from the use of the gunjah being considered infamous among the natives, especially among females. The eight belonged to the lower class of females, as stated below: of these, five were discharged cured, during the year.

Female Beggars	...	...	...	...	...	...	...	2
— Beragees	...	...	...	...	...	...	...	1
— Ryots	...	...	...	...	...	...	...	3
— Fukeerancee	...	...	...	...	...	...	...	1
— Prostitutes	...	...	...	...	...	...	...	1
								—8

"The following are examples of patients, in whom the insanity was produced by the use of gunjah:—

"Issawn Chunder Chattergea, a Brahmun, the son of a hereditary priest of a temple; is forty years of age, and is strong, and well made. His father does the duty of the temple; and the son, after being employed by his father in preparing images of gods for sale, some time ago left his home, became the servant of an indigo planter, and, probably, there formed the pernicious habits of drinking spirits and smoking gunjah, which affected his

intellect, and obliged his parents to send him to the Dacca Asylum. There, in absence of his accustomed stimuli, he got well, and was sent home.

"He returned to his old habit, became 'excessive in his indulgences of gunjah'; his intellect became again impaired, and he was sent back to the asylum. He has employed his whole time in preparing rude figures of gods, since his admission, and repeats prayers, and the names of his gods. He works, when required, in breaking bricks for the roads, wears clothes, and sings and cries alternately at times; he chatters much, and sleeps little. Some nights he employs in preparing fantastical drawings on the walls of his cell.

"In consequence of my paying some attention to his work, he has got more clay, and is preparing all sorts of mythological figures,—the serpent winding round hills, the attendants of Siva, and the sacred bull. One morning I found he had prepared a head, nearly as large as life, which he placed near the wall upon the ground, and formed a body with white sweet-scented flowers. On another occasion, he insisted on my taking the head of a dead person, which he had prepared without any copy. It appeared as if divided at the neck with a cutting instrument; the muscles retracted, so as to exhibit the body of the divided vertebræ, and the transverse processes prominent, with the muscles of different lengths from their retraction. The pomum Adami was drawn up, and accurately formed; the skin of the face appeared shrivelled, and stretched over the emaciated jaw-bone; the forehead was retracted, the nose sharp, the nostrils distended, and the mouth half open, as if retaining the impression of the last fearful gasp. Even the eyes were open by the retraction of the muscles, and not shut, as one less attentive to nature would have represented. On examining more closely, the buccinator muscles were still prominent, and the sterno-cleido-mastoid muscle was visible. The face was exactly that of a person in the last agony, as described by the father of medicine. This is not a solitary or even uncommon quality among those Hindus, whose hereditary occupation is to prepare the figures of gods, and other such works. I have known one of them sent for, by chance, who sat down to prepare a bust of an individual, which he did with an exactness and elegance that was truly remarkable, throwing a considerable degree of character into the bust, and even preparing the drapery with much grace and elegance, although the European dress added much to the difficulty of such a result. One day this patient stopped me, and commenced unfolding a small parcel he carried about him: rag after rag was untied, and he exhibited shells, plum-stones, etc.; at last he came to the centre of the parcel, which contained a piece of printed paper, which he unfolded amidst sobs and tears. I found this to be a sheet of the New Testament in the native language, which he read to me amidst many tears. Strange that the sacred oracles should have penetrated and become a prayer to an insane Brahmun!

"Fygun had her insanity produced by smoking gunjah; and two days after being discharged cured, she was readmitted in a state of mania from the same cause. She was very excited and unmanageable on admission,—rolling about on the floor, tearing her clothes, and abusing every one who came near her. She would not eat or work, and was obliged to be confined, from beating another patient. She began to work a month after admission, became rational in her conversation in another month, and was discharged cured five months after her second admission.

"The difficulty of breaking the habit of using gunjah is always very great, and the recurrence of the insanity is generally the consequence even of a slight indulgence. Some years ago, I tried to prevent an unfortunate young man from obtaining his usual supply. He was reduced to a skeleton, took little or no food, and lived only to enjoy the fascinating drug. He was in a state of great nervous distress on the withdrawal of the gunjah, and complained bitterly of the privation; but no bad effects followed, and his health and strength improved while he remained in the hospital. In the Dacca

jail, it was found that the privation of the usual quantity of the drug and opium produced diarrhœa, etc., which was checked by allowing a small quantity daily.

"We give below the proportion of Mussulmans compared with those of Hindus in the city of Dacca, affected with insanity from using gunjah, and the number of insane from the city and district of Dacca, compared with those of the surrounding districts. This difference may be in part owing to the dissolute habits of the Mussulman city; and from the cases of insanity being more generally forwarded to the asylum, than when they occur in other districts. But there is no doubt that the principal causes of the great number of cases of insanity produced by the use of gunjah, are the low price of the article, and the great number of licensed shops in the city; and the interference of government, by placing a duty on gunjah, is loudly called for.

Mussulmans	...	...	...	...	...	...	...	...	...	35
Hindus	...	...	...	...	...	...	...	...	...	42
										—77
Dacca...	...	...	...	...	...	...	...	...	...	61
Furzedpore	...	...	...	...	...	...	...	...	...	3
Bachargunge	...	...	...	...	...	...	...	...	...	6
Tipperah	...	...	...	...	...	...	...	...	...	3
Sylhet	...	...	...	...	...	...	...	...	...	1
Mymensing	...	...	...	...	...	...	...	...	...	1
Pubna	...	...	...	...	...	...	...	...	...	2
										—77

"CHURUS, or the inspissated juice of the Indian hemp plant, is usually taken mixed with water. In half an hour it produces intoxication of a most cheerful kind, increases the appetite for food, and for sensual enjoyments. Should the government restrict the sale of gunjah, many would be forced to give up the pernicious habit, as churus would be too expensive to enable them to purchase it.

"The churus is prepared in Bengal by beating a quantity of the Indian hemp plant, exposing it to the influence of the night dew, and pressing the bruised plant with the naked hand, to which the churus adheres: it is then scraped off for use. It is of much higher price than the gunjah, and is more rarely used, particularly as it is far less stimulating, and produces a lighter degree of intoxication. So great is the difference, that ten pipes of churus will not cause the same effect that one of gunjah will produce. Still, churus is sometimes used by the rich, and by singers, etc."

ON UNUNITED FRACTURES. BY PROFESSOR SYME.

[Lecture delivered May 13, 1852.]

MR. SYME has no faith in setons, subcutaneous divisions, or ivory pegs, and he attributes the credit which they enjoy to the fact that in the cases in which they seemed to be useful, the benefit was derived from *the bones having been kept quiet*. Rest and suitable bandaging are the means which Mr. Syme relies on; and if the fractured ends are not too far separated to permit of their approximation within range of ossific action, he says that most old ununited fractures, except those of the humerus, can be successfully treated. In illustration of the impediment to osseous union, caused by the separation of the broken parts, the following case is thus mentioned and commented upon. It was treated from its commencement by Mr. Syme. The plan suggested is very feasible.

"J. C., aged 18, who was admitted on the 10th of January, for compound fracture of the leg. A large portion of the tibia was detached at the time of the injury, and an additional portion subsequently exfoliated. The greatest care was taken to keep the limb quiet in a good position, and every thing went on favourably, except that no firmness was regained. The wound has

been healed for many weeks, but still the bone remains flexible, as if there were a fibrous substance interposed between its extremities. My explanation of this result is, that the fibula not having sustained a loss of substance commensurate with that of the tibia—or rather any loss of substance at all—has maintained the leg of its original length, and prevented the surfaces of the tibia from approximating to each other within range of the ossific action,—just as in the experiments of Sir A. Cooper on dogs and rabbits, where a portion of only one bone of the fore-leg was removed,—it being always found that when the portion removed exceeded a small limit, the osseous extremities were united by a fibrous medium. According to this view of the case, the most likely mode of affording relief would seem to be cutting out the fibrous substance which has been formed between the ends of the tibia; and, at the same time, in order to promote their requisite approximation, removing a portion of the fibula. Such an experiment appears justifiable under the circumstances, and shall forthwith be put to trial.”

DUBLIN JOURNAL OF MEDICAL SCIENCE.

No. XXVI, BEING FOR MAY 1852.

1. SYMPTOMS RESULTING FROM AN UNDESCENDED TESTICLE, WHICH WERE OF SO PAINFUL A NATURE AS TO NECESSITATE ITS REMOVAL. By JOHN HAMILTON, Esq.
- 2.* ON ANEURISMS OF THE ARTERIA INNOMINATA: THEIR HISTORY AND DIFFERENTIAL DIAGNOSIS FROM ANEURISMS OF THE ARCH OF THE AORTA. By T. S. HOLLAND, M.D.
[Concluded from February Number.]
3. NOTICES OF THE PRINCIPAL DISEASES OBSERVED ON BOARD THE STEAMERS OF THE PENINSULAR AND ORIENTAL STEAM-PACKET COMPANY IN THE MEDITERRANEAN AND INDIAN SEAS, DURING NEARLY SEVEN YEARS. By C. F. MOORE, M.D.
[Many of the observations of the author are interesting. His remarks on SEA-SICKNESS will be found in a subsequent page. “The WITHDRAWAL OF GROG,” Dr. Moore states, “has been attended with beneficial effects.”]
4. FURTHER OBSERVATIONS ON FRACTURES IN THE VICINITY OF THE ANKLE-JOINT; THE REMOVAL OF SPICULE OF BONE, ETC. By R. G. H. BUTCHER, Esq.
- 5.* MECHANISM OF THE ACOUSTIC PHENOMENA OF THE CIRCULATION OF THE BLOOD, WITH AN EXPOSITION OF A NEW ELEMENT IN THE CAUSATION OF THE FIRST SOUND OF THE HEART. By ARTHUR LEARED, M.B., M.R.I.A.
6. ON HYDROCELE. By C. FLEMING, M.D., and SAMUEL WILMOT, M.D.
7. REVIEWS.
8. MEDICAL MISCELLANY.

DIFFERENTIAL DIAGNOSIS OF ANEURISMS OF THE ARTERIA INNOMINATA, AND ARCH OF THE AORTA. BY DR. HOLLAND.

The papers of DR. HOLLAND supply much accurate information regarding a subject which is invested with considerable difficulty and obscurity. We are therefore glad to observe that the author intends, “at a future period, considering the differential diagnosis of aneurism of the arteria innominata from aneurism of the carotid, the subclavian arteries, etc.; and, finally, the treatment that has been applied to effect its cure.” The bibliography of the subject, as far as the author had opportunities of investigating it, is appended to the essay; and it cannot fail to diminish the labours of those who may wish to reinvestigate this department of pathology.

THE CONCLUSIONS arrived at by the author are subjoined. He offers them as "representing the present state of our knowledge of the differential diagnosis of aneurisms of the transverse portion of the arch, from those of the arteria innominata; and as containing some of the elements of a diagnosis that clinical observation will bring to perfection."

In Aneurisms of the Arteria Innominata.

"I. External tumour is a frequent and early sign, situated generally above the inner third of right clavicle.

"II. Arteries in right arm, and on the right side of neck and head, generally pulsate weaker than those on the left.

"III. Stridulous respiration, cough, dysphagia, alteration in the voice, and dyspnoea, are comparatively rare.

"IV. Pain, œdema, and enlargement of the veins, begin in right arm or the right side of neck and head; they may finally extend to the left side.

"V. Partial loss of motion or sensation in the right arm is a comparatively frequent symptom.

"VI. Dislocation of the clavicle, trachea, or larynx, a comparatively frequent occurrence.

"VII. Alteration in the intensity of the respiratory murmur occurs but very rarely, and then it is weaker in the right lung.

"VIII. Abnormal arterial murmurs in the right carotid or subclavian.

"IX. Pressure on the right carotid and subclavian diminishes or stops the pulsations of the tumour."

In Aneurisms of the Transverse Portion of the Arch.

"I. External tumour occurs comparatively rarer and later, situated generally at the left side of, or under the sternum.

"II. Arteries in left arm, and on the left side of neck and head, generally pulsate weaker than those on the right.

"III. Stridulous respiration, cough, dysphagia, alteration in the voice, and dyspnoea, are comparatively frequent.

"IV. Pain, œdema, and enlargement of the veins, begin in left arm or the left side of neck and head; they may finally extend to the right side.

"V. Partial loss of motion or sensation in the right arm is a comparatively rare symptom.

"VI. Dislocation of the clavicle, trachea, or larynx, very seldom occurs.

"VII. Alteration in the intensity of the respiratory murmur occurs very frequently, and then it is generally weaker in the left lung.

"VIII. Abnormal arterial murmurs loudest in left carotid or subclavian; heard also along the spinal column posteriorly.

"IX. Pressure on the carotid and subclavian, on either side, has but little effect on the pulsations of the tumour."

TREATMENT OF SEA-SICKNESS. BY DR. C. F. MOORE.

The following passage contains DR. MOORE'S views on the subject of seasickness:—

"I find, if a person affected with sea-sickness remains in the open air, and takes a small quantity of food,—arrow-root, yolk of egg beaten up, biscuit or rusk, and a little cold water,—they generally overcome the sickness, after repeated efforts to retain some such light diet. If they cannot subdue the distressing symptoms of sea-sickness by these means, I usually find that they derive much benefit from draughts of citrate of ammonia taken in a state of effervescence, and combined with hydrocyanic acid, or solution of morphia, or tincture of henbane, according to circumstances. I have tried creasote in different forms of combination, but cannot recommend it. When irritation of the stomach runs into inflammation, I have often had to resort to leeching and vesication. The state of the bowels should be early looked to in these

cases. I have read of fatal cases of sea-sickness as having occasionally occurred; but though I have seen some thousands of persons sea-sick, I have never witnessed a single fatal case.

"Before dismissing the subject of sea-sickness, I think I may here allude to some of the means advised as prophylactic in this serious drawback to sea-travelling. Amongst other means proposed, the following have recently been recommended: Inspiring and expiring with the rising and falling of the part of the vessel you are in; endeavouring to hold a tumbler nearly full of water at arm's length, without spilling any of it. I have seen persons occasionally try these means; and though for a time they are amused and the sea-sickness postponed, they generally soon tire, and undergo the penalty of the majority of novices on board ship.

"I have just used the word 'novice', and I think it explains how the majority of sailors overcome the tendency to sea-sickness, namely, by becoming accustomed to the motion of the ship, and so learning to counteract the upsetting effect produced upon the stomach by the unsteadiness of the vessel. Many persons have never been sea-sick in their lives: others, as in the case of Lord Nelson, have never been able to overcome the tendency to it during long service afloat; nay, I have known officers become very sea-sick, when transferred from their own ship to one in which they have not before sailed. Much, too, depends on the state of health an individual enjoys at the time of going to sea.

"I would recommend each person, on first going to sea, to keep on deck as long as possible, never to allow the stomach to remain empty, to occupy the mind with conversation or light reading, and to keep near the centre of the ship, or where there is least motion."

MECHANISM OF THE ACOUSTIC PHENOMENA OF THE CIRCULATION OF THE BLOOD; WITH AN EXPOSITION OF A NEW ELEMENT IN THE CAUSATION OF THE FIRST SOUND OF THE HEART. BY DR. A. LEARED.

DR. LEARED begins his paper with a critical examination of the views of Drs. C. J. B. Williams and Billing, as being those at present most generally received, adding, at the same time, his reasons for dissenting from both. A division of the sounds observed in the circulating system is given, which, he says, regarded as a whole, may be divided into two classes, as follows.

"1st. Those referrible to the circulating apparatus.

"2nd. Those referrible to the circulating fluid:—*a*. Current Sounds.
b. Concussion Sounds.

"Under the first head may be placed the sound of muscular contraction, that of the impulse of the apex against the parietes, and any other causes, which may be advanced as subsidiary sources of sound.

"In the second class, the first division embraces the various and appropriately-named *bruits* of Laennec. They are all abnormal, and have been observed in the heart, in the arteries of a certain size of perhaps all parts of the body, especially when affected by aneurism, and in certain venous trunks and sinuses. They are often associated with an appreciable tremor, termed by the same author *frémissement*. The physical law of their production, although identical in all, is often dependent on conditions that are very dissimilar.

"The second division of this class includes the natural sounds of the heart, and the sounds heard in certain aneurisms. Their production is dependent on the same cause—the direct influence of the ventricular action within certain limits, and they are severally convertible into those of the first division of the same class."

Certain points connected with the mechanism of *bruit de soufflet* are next considered. He gives his adherence to the view of Dr. Williams, that the

condition of its walls beyond the point of obstruction in a tube is immaterial in the production of *bruit de soufflet*, in other words, that *bruit de soufflet* is not due to the vibration of the parts of the tube in front of the obstruction, as maintained by Dr. Corrigan; while to prove that *bruit de soufflet* can be produced in fluids altogether independently of solids, he adduces the following experiment.

"To the neck of an India rubber bottle, a tube of the same material, two feet long, was adapted by means of a short, thin one of brass. With an aperture in the side of the bottle, a brass box, provided with a valve opening inwards, was connected; the other extremity of the box being attached to another shorter, but wider, caoutchouc tube, the communication through this and the box, to the interior of the bottle, being wider at every point than that through the first-mentioned tubes. The free extremities of both tubes, having been placed in a large vessel containing water, the end of the longer one was fixed horizontally with the surface, equidistant between it and the bottom of the vessel, and at a distance from its sides, but without infringing on its calibre in bending it. On alternately strongly compressing and relaxing the bottle, an active circulation ensued, at first attended by loud gurgling, but speedily, on the expulsion of the air, assuming a steady and uniform progression; the influx which, from the arrangement of the valve was through the shorter tube, being, in consequence of the larger diameter of the tube and of the box, sufficient to allow of a constantly full effluent current through the longer tube.

"A stethoscope was now partly introduced beneath the water in the reservoir, and the bell-part approached to the extremity of the longer tube, care having been taken that there should be no contact, and that the current should not impinge on the instrument. There was heard through it, when the ear was applied, a perfect rhythmical *bruit de soufflet*, loudest near the mouth of the tube, and decreasing in intensity as the stethoscope was moved from this position.

"In this experiment the *bruit* was certainly not caused by the vibrations of the vessel containing the water,—its dimensions completely forbidding such a supposition. Neither could it be caused by the vibrations of the tube, since, owing to the atmospheric pressure, it was quite full of water before the bottle was compressed, and when it was compressed, additional fluid was forced through it in a full stream, with considerable power, circumstances, as proved by Dr. Corrigan, that must have prevented it from vibrating. That it was caused by the currents issuing from the end of the tube, displacing the water in the reservoir, is plain.

"In the tube itself a *bruit* was distinguishable for a short distance, but it gradually diminished from the end beneath the water, until it became lost before reaching the neck of the bottle, where none could be detected. This *bruit* was quite unattended with *frémissement*, as would not have been the case had it originated in the tube. I therefore regard the sound as merely transmitted from the water, as may easily be conceived. It could not, as has been said, have originated in the tube, as there was sufficient tension to prevent its contents from dividing into minor currents; but on their escaping from the aperture, this, although of full size, became relatively a constriction. From the divergence now occurring, the integrity of the fluid column was destroyed; it became divided into separate currents, and *bruit de soufflet* was formed on the same principle as when it occurs in front of an obstruction in a tube, or in one in which there is insufficient tension of its contents to prevent them from dividing, while to the hand placed in the reservoir, so as to receive these currents, a perceptible thrill (*frémissement*) was communicated. There was, however, this difference: in a tube, obstruction to the diverging currents is chiefly lateral, while in my experiment, a portion of the passive water in the reservoir was of necessity displaced in front of that issuing from the tube in an active state before *bruit de soufflet* could occur. On the rela-

tive manner in which this displacement is effected, and the circumstances which regulate it, as I shall afterwards explain, an important part of my theory of the cardiac first sound depends.

"I regard *bruit de soufflet*, then, as the result of a diminution in the pressure mutually exerted between the particles of a body of fluid in motion; some of the circumstances under which this occurs have been already alluded to. The consequence of this is, the main current becomes split into numerous smaller ones. The particles, in place of a progressive motion, in which an equable relation to each other was preserved, assume new and irregular movements. If these currents are confined within elastic walls against which they impinge, *frémissement* is produced. Its occurrence is, therefore, accidental; and *bruit de soufflet*, although certainly rendered louder by the intervention of solids in its mechanism, is capable of being produced altogether independently of them."

Under the second division of the second class, or concussion sounds, he places the natural sounds of the heart, and those resembling them, heard in certain aneurisms. With regard to the latter, he states, that he agrees with Dr. Bellingham in regarding a sufficient general analogy to exist between the sounds of both, whether when having the character of *bruit de soufflet*, or of the normal sounds of the heart, to indicate a close affinity in their mechanical production. He cannot, however, coincide with the above gentleman in referring it to friction between the blood and the parietes with which it is in contact. He says:—

"It has been already proved by the experiment with the India rubber bottle, that during the passage of fluids, under a certain amount of tension, into a tube, friction cannot be regarded as even an auxiliary source of sound, the passage being effected without any sound; while to prove that concussion, accompanied by sound, is capable of being produced in fluids under certain circumstances, I adduce the following experiment:—

"The same apparatus having been employed as in the last experiment, a solution of gum Arabic, of a consistence to represent blood, was substituted for water, and the stethoscope having been applied as before, a sound, strongly resembling the first sound of the heart, was observed to accompany the junction of the fluids in the reservoir.¹

"In this case, there not being the same facility for the divergence of the fluid cylinder on its escaping from the tube, owing to the viscosity of the fluid, its integrity was in a greater measure preserved. For the same reason, the fluid in the reservoir was displaced with greater difficulty, and in place of *bruit de soufflet*, or the result of diverging currents, there was the result of concussion, or a sound closely approximating the first cardiac sound. * * *

"Having now shown that sounds, closely allied to the natural first sound of the heart, can be formed by the shock occurring between two portions of a liquid of a certain consistence, one of which, on being forcibly propelled by an intermittent action, is brought into contact with the other in a state of rest, or comparatively so, I will proceed to apply the fact to the conditions existing in the heart itself, taking its left side to represent both.

"Subsequent to the elastic reaction of the aortic walls, which we must suppose does not occupy the entire period of the diastole of the ventricle,

¹ "I have been the more careful to satisfy myself of the correctness of this observation, as Dr. Williams, after speaking of the great difficulty in making fluids originate sounds, states that, 'on making an experiment with a gum-elastic bottle, by filling it with water, and then forcibly compressing it under water by the end of the stethoscope, avoiding the use of the hand, for that produces its own muscular sound, I have failed in procuring any sound at all approaching to that of the heart's contraction.' (*Op. cit.* p. 296.) But from what I have shown, it is plain that such a result was not to be looked for where water was used in the experiment, not to mention the difference in the apparatus employed."

the column of blood in the upper part of the aorta attains a state of momentary repose. This column, in a normal state, is under considerable tension, and it is perfectly isolated from the contents of the ventricle by the semilunar valve. When systole occurs, the valve, with its superposed blood, is forcibly thrown forwards by the vigorous propulsion of the blood from the ventricle; concussion now ensuing between the active and passive portions of blood, a sound is produced on the same principle, and from the same cause, as in my experiment; and this, *cæteris paribus*, is the essential element in the normal first sound of the heart.

"Without, however, overlooking the influence of the arterial parietes in probably contributing to the clearness as well as the loudness of the sound, I offer the following observations, derived from the shape and arrangement of the valve, as to some circumstances that appear to me in this case especially favourable to the occurrence of concussion. The three segments of the semilunar valve are acted upon by an equable force; they are, therefore, simultaneously lifted, and the blood thrown up must be conceived to assume at the moment a somewhat conical configuration. But the force having been applied to the inferior or cardiac sides of the segments, the opposing surface of blood, or that resting on their superior sides, will be thrown into the very opposite shape, or that of a hollow cone. Now, as this force must, of necessity, greatly exceed the resistance in the aorta, a diminution of tension will, I conceive, occur at the instant of the elevation of the valve between the portions of blood referred to,—a matter that must certainly contribute to the force of their subsequent collision.

"I have next to consider the more special laws by which the sound in question is regulated; in other words, the precise conditions upon which the first sound preserves its integrity, and those upon which it is transformed into *bruit de soufflet*. For its perfect development, three conditions appear to be requisite:—

"1. A certain amount of pressure in the circulation.

"2. A certain condition of the blood.

"3. Non-obstruction of the moving body of fluid.

"The facts which I shall adduce in illustration of the above will be such as are best known, and will be most readily admitted. That a certain amount of pressure or fulness of the circulatory apparatus is requisite, is shown by the occurrence of *bruit de soufflet* in the hearts of animals after excessive depletion, as has been often observed. It is the natural first sound that in these cases becomes transformed into the abnormal sound.

"That a certain condition of the blood is necessary, is manifested in the change of the first sound into *bruit de soufflet* in cases of anæmic diathesis. This may depend solely on the loss of viscosity in the blood; it by no means following that in all cases of anæmia, as might be inferred from the term, that the absolute amount of blood in the system is diminished. This change of sound has been already demonstrated by experiment. In the case of venous murmurs observed in this disease, however, as from the more mobile state of the blood, owing to its diminished viscosity, increased motion must result, so from the last, diminution of pressure will ensue. Two favourable conditions thus concurring in these vessels, a *bruit* is produced in them, although normally unaccompanied by any sounds.

"That non-obstruction of the moving body of fluid is essential, is proved by the well-known connexion between *bruit de soufflet*, accompanying or replacing the first sound of the heart, and the various pathological changes of the aortic outlet, whether consisting in contractions or in morbid growths, all having a similar effect, impairment of the normal configuration and force of the systolic wave. If this be broken, or thrown into minor currents by either of the causes related, the principles of concussion upon which the normal first sound is dependent being infringed upon, the first sound becomes replaced by *bruit de soufflet*.

"I think it will be admitted, that such a view of the relation between the normal essential sounds and abnormal systolic sounds of the heart, and their mutual convertibility, at least is more in accordance with clinical experience than any which refers them to other origins. Thus in any case of cardiac systolic *bruit*, if the normal first sound of the heart is attributed to muscular contraction, the normal sound being frequently quite absent must be regarded as masked by the accompanying *bruit*, a circumstance, under a certain amount of loudness of the *bruit*, not inconceivable. But we know that even faint murmurs sometimes replace the natural first sound of the heart, indicating that an essential change in its production has occurred. It is also true that in certain cases the abnormal sound appears, as it were, engrafted on the normal. This is a circumstance easily accounted for, where the former has its origin at the mitral orifice; while in cases in which the *bruit* is exclusively of aortic origin, I would refer to the sounds admitted in certain instances to be auxiliary to the essential first sound, to explain the combination.

"But it may still be objected, first, that as the sounds of the heart are respectively derived from twofold and independent sources, complete transition from normal into abnormal sound, especially if the latter be not of a loud character, can only occur from the same morbid association existing at both sides of the heart. I regard the left side, however, as the chief contributor to the sounds, this being accounted for by its superior muscular power and other circumstances; a *bruit*, therefore, occurring at this side, would most generally suffice to render inaudible the natural coincident sound of the right side. Secondly, that in the not infrequent case of systolic *bruit* from imperfect mitral valve, the first sound, if not masked by the loudness of the abnormal sound, should always be heard distinct from the *bruit*, which is not warranted by experience. But from what I have said already, it is plain that one of the conditions of the production of the first sound in the aorta, viz., a certain amount of tension, will be directly infringed on by this lesion, the regurgitation of blood into the auricle being accompanied by an exact proportional diminution of that sent into the aorta. This might be expected to lead, according to the degree in which it occurred, either to great impairment of the natural first sound, or to its transition into *bruit de soufflet*, in accordance with the law of diminished pressure already dwelt upon. Whether *bruit de soufflet* is ever thus produced in the otherwise healthy aorta, forming, with that caused by the mitral regurgitation, a single sound, but of a twofold origin, I will not pretend to say. The fact that this lesion of the mitral orifice furnishes some of the loudest examples of *bruit de soufflet* is, I think, sufficient to excite such a suspicion.

"The objection to the origin of the first sound in the arterial outlets, drawn from the relative distinctness of the second sound at the top of the sternum, or corresponding to the arch of the aorta, as compared with the first sound, while the latter is heard most distinctly between the ribs, corresponding to the apex of the left ventricle, does not appear to me to be of a serious nature. The second sound, owing to its sharper character, is better calculated for transmission along the aorta than the first sound; but I have repeatedly observed both sounds equally distinct, and occasionally the first sound even the loudest at the top of the sternum. That the first sound should be ordinarily most distinctly heard in the position alluded to, I think attributable to the fact that during systole the apex of the left ventricle is brought into direct apposition with the parietes of the thorax, and that at the moment, owing to its firm contraction, and the expulsion of the contained fluid, it is placed under the most favourable circumstances for conducting sound. Cruveilhier states that in the case of *ectopia cordis* observed by him, the first sound was heard loudest at the root of the aorta; an important testimony in favour of my explanation of its mechanism."

With regard to the second sound of the heart, Dr. Leared coincides with the generally-received opinion, that it results from the closure of the semi-

lunar valves. He states that he has contrived an apparatus, furnished with a valve formed of pieces of bladder, adapted to a tube in imitation of those valves, by which it can be exactly imitated; and he draws an inference, as the result of his experiments with this apparatus, that the closure of the semilunar valves depends more on the tendency to a vacuum formed in the heart at the commencement of the ventricular diastole, than on the falling back of the blood in the aorta and pulmonary artery, as generally supposed. He adds: "I regard this sound, however, as coming strictly under the head of concussion sounds; but here the concussion is between a fluid and a membranous expansion, instead of between two fluids, as in the case of the first sound, its character being, as might be expected, different from the latter."

He proceeds to apply the principles of concussion to the production of sounds resembling those of the heart observed in aneurisms; those having a double sound of this nature being almost exclusively confined to such as occur within the thorax. He considers that concussion occurs between the blood which is forcibly propelled through the vessel by the action of the heart, and that contained in a sac situated upon it, which is in a state of comparative repose. An experiment is given, to prove that this is really the state of the blood in the aneurismal sac, instead of its being kept in rapid motion by simultaneous currents of ingress and egress through its neck, as supposed by many. None of the disturbing influences already enumerated being in operation, which would determine the sounds to be *bruit de soufflet*, and the concussion occurring at the neck being equally propagated in all directions, according to a well-known law of fluids, between the interior of the sac and its fluid contents, sounds resembling those of the heart are thus generated. With regard to the second impulsion of blood into the sac, by which the second aneurismal sound is produced, Dr. Leared appends some observations in elucidation of its occurrence, in addition to those previously published by Drs. Gendrin and Lyons.

MEDICAL TIMES AND GAZETTE.

FOR MARCH, APRIL, AND MAY 1852.

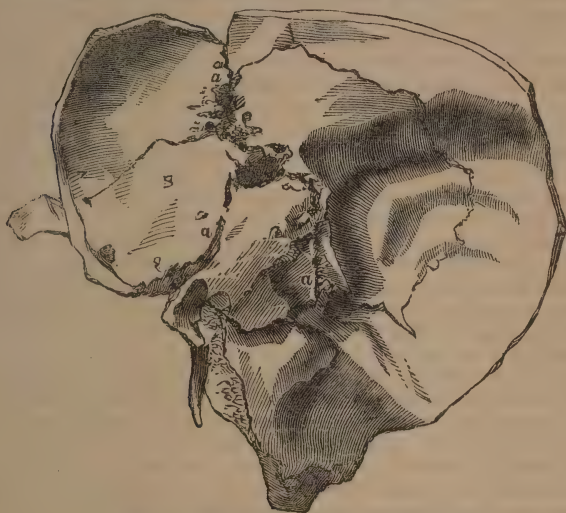
1. LECTURES ON DIGESTION, RESPIRATION, AND SECRETION. By H. B. JONES, M.D. March 6, and 27.
[The topics treated of are—"The Relation of the Income to the Expenditure of the Body": and "The Alkaline and Earthy Phosphates."]
2. IRITIS IN AN INFANT. By R. TAYLOR, M.D. March 6.
3. OVARIAN TUMOURS. By F. BIRD, M.D. March 6.
4. ETIOLOGY OF PHTHISIS. By EDWARD SMITH, M.D. March 6.
- 5.*CASES OF RECOVERY AFTER FRACTURE OF THE BASE OF THE SKULL. By HENRY LEE, Esq. March 6.
6. SPERMATORRHEA. By J. MILTON, Esq. March 6.
7. CUTANEOUS ERUPTION IDENTICAL WITH CHOLERA EXANTHEM, AFTER DIARRHEA. By E. A. PARKES, M.D. [Clinical Lecture.] March 13.
8. STRICTURE OF THE URETHRA AND PERINEAL SECTION. By WILLIAM FERGUSSON, Esq. [Clinical Lecture.] March 13.
- 9.*PATHOLOGY AND DIAGNOSIS OF RENAL DISEASES. By G. JOHNSON, M.D. [Gulstonian Lectures.] March 20, April 3, and 24, May 29.
10. DYSMENORRHEA. By E. RIGBY, M.D. March 20, and May 29.
11. EXCISION OF JOINTS. By G. M. JONES, Esq. March 20, May 1, and 22.
12. MICROSCOPIC CHARACTER OF THE URINE IN BRIGHT'S DISEASE. By J. D. MACDONALD, Esq. March 20.
13. MEDICAL HISTORY OF THE 47TH REGIMENT. By G. SAUNDERS, Esq. March 20.
- 14.*NON-MENSTRUATION IN TWO FEMALES WHO HAD ATTAINED THE AGE OF FORTY-EIGHT. By HENRY OLDHAM, M.D. March 27.

15. DISEASES OF THE EAR. By W. R. WILDE, Esq. March 27, May 1, and 15.
- 16.*LOCAL TREATMENT OF ULCERS OF THE LEG. By H. T. CHAPMAN, Esq. March 27, and April 27.
17. CASE OF COMPOUND FRACTURE OF THE CRANIUM. By R. ANNAN, Esq. March 27.
18. NÆVUS OF THE EYELID cured by Platinum Wire heated red hot by Galvanism. By R. M. BERNARD, Esq. March 27.
19. EXPANSION OF THE CHEST IN THE COURSE OF PNEUMONIA. By H. FEARNSIDE, M.B. April 3.
20. HOMŒOPATHIC HOSPITAL STATISTICS. By W. T. GAIRDNER, M.D. April 3.
- 21.*TREATMENT OF POLYPI OF THE EAR. By JOSEPH TOYNBEE, Esq. [Conclusion.] April 3.
22. CHRONIC BRIGHT'S DISEASE. By E. A. PARKES, M.D. [Clinical Lecture.] April 10.
23. ON OPERATIONS FOR RETENTION OF URINE OCCASIONED BY INVETERATE STRICTURE. By JOHN SIMON, Esq., F.R.S. [Clinical Lecture.] April 10, and 17.
24. EXPERIMENTS ON THE EFFECTS OF ANTIMONY. By C. HANDFIELD JONES, M.B., F.R.S. April 10.
25. CASE OF ARTIFICIAL ANUS. By DRs. LESLIE and PENNELL, of Rio Janeiro. April 10.
26. NEW METHOD OF TREATING GONORRŒA. By J. L. MILTON, Esq. April 10. [To be continued.]
27. THERAPEUTIC EFFICACY OF DILUTED HYDROCYANIC ACID AS A TOPICAL APPLICATION IN CERTAIN AFFECTIONS OF THE EYE. By JAMES VOSE SOLOMON, Esq. April 10, May 1.
[To be continued.]
28. HYDROCELE. By BRANSBY B. COOPER, Esq., F.R.S. [Clinical Lecture.] April 17, and May 22.
29. ACUTE ARACHNITIS INDUCED UPON CHRONIC DISEASE OF THE BRAIN BY RIDING IN A VERTICAL SWING AT A FAIR. By JOHN D. BROWN, M.D. April 17.
- 30.*CASES IN SURGERY. By HENRY SMITH, Esq. April 17.
31. CLEFT PALATE. By WILLIAM FERGUSSON, Esq., F.R.S. [Clinical Lecture.] May 1.
32. BRIGHT'S DISEASE. By H. BENCE JONES, M.D., F.R.S. [Clinical Lecture.] May 8.
33. MECHANISM OF BRONCHOPHONY. By W. H. WALSHE, M.D. May 8.
34. DUMBNESS AFTER TYPHUS FEVER. By W. FOLEY, M.D. May 8.
35. GANGRENOUS THECAL INFLAMMATION OF THE HAND FROM A BITE. By A. CARR, M.D. May 8.
36. UREA AS A DIURETIC. By T. H. TANNER, M.D. May 8.
37. SUCCESSFUL CASE OF LIGATURE BOTH OF THE EXTERNAL ILIAC, AND SUPERFICIAL FEMORAL ARTERIES ON THE SAME SUBJECT. By H. SMITH, Esq. May 8.
38. TREATMENT OF PNEUMONIA. By ROBERT B. TODD, M.D., F.R.S. May 15.
39. CRANIAL BONES OF THE ANEUCEPHALOUS FŒTUS. By HOLMES COOTES, Esq. May 15.
40. FATTY DEGENERATION. By W. F. BARLOW, Esq. May 15.
- 41.*OBSERVATIONS ON THAT PORTION OF THE "SECOND REPORT ON QUARANTINE", BY THE GENERAL BOARD OF HEALTH WHICH RELATES TO THE YELLOW FEVER ON BOARD H.M.S. ECLAIR, AND AT BOA VISTA IN THE CAPE DE VERDE ISLANDS. By J. O. McWILLIAM, M.D., F.R.S. May 22, and 29.
42. ENTROPIUM. By H. WALTON, Esq. May 22.
43. MEANING OF THE TERM "ULCERATION" AS AT PRESENT APPLIED TO UTERINE DISEASES. By T. SNOW BECK, M.D. May 29.

CASES OF RECOVERY AFTER FRACTURE OF THE BASE OF THE SKULL.

BY HENRY LEE, ESQ.

MR. LEE gives the particulars of five cases, in which the evidence was more or less conclusive, of fracture of the base of the skull, and in which the patients subsequently recovered. Such cases have been by many surgeons supposed occasionally to occur, but for obvious reasons their real nature is not easily demonstrated. An opportunity however in one case presented itself to Mr. Lee, of examining the parts six months after a fracture of the base of the skull, and the bone was found to have become firmly re-united, as shewn in the accompanying drawing.



Re-union after fracture of the base of the skull.

In four out of the five cases mentioned by Mr. Lee, some degree of paralysis of the nerves of the head remained after the other symptoms had disappeared. This is attributed to the influence exerted upon the nerves by the injured bones with which they are in contact. "In some cases the sheath of the nerve is probably at first only affected; in other cases the nerves themselves may be so bruised (as sometimes happens to the spinal chord in cases of fracture of the spine) as permanently to lose their power. In other cases, again, the nerves may be torn across by the displacement of the fractured portions of bone through which they run. A local paralysis or loss of sensation will then ensue, quite distinct in its origin and effects from that produced by concussion or compression of the brain. In such instances, the loss of nervous energy is not necessarily attended by any disturbance of the system. The parts to which the nerves are distributed may, however, be more or less affected as regards their nutrition and secretion, as well as their sensations and motions. In one of the cases given by Mr. Lee, the cornea of the left eye had become opaque five months after the accident.

ABSTRACT OF DR. GEORGE JOHNSON'S GULSTONIAN LECTURES ON
THE PATHOLOGY AND DIAGNOSIS OF RENAL DISEASES.

DR. JOHNSON commences with the statement that the most secure basis for pathological science, is a knowledge of healthy structure and functions. He then gives a succinct account of the anatomy and physiology of the kidney. Proceeding then to the consideration of such pathology, he states

that all the forms of what is commonly called Bright's disease originate in a morbid condition of the blood, that the secreting cells of the kidneys are the first structures which undergo morbid changes, and that these changes are the result of our efforts to eliminate morbid matters from the blood. He then describes the chief phenomena of what he has designated acute and chronic desquamative nephritis, his description of these diseases being substantially the same as his previously published account of them.¹ He explains the phenomena of albuminous urine and atrophy by referring to Dr. Reid's experiments on asphyxia, which show that when the blood contains an excess of excrementitious materials, its circulation is retarded throughout the entire capillary system, but more especially in the capillaries of that particular organ whose office it is to eliminate the materials in question. The impeded renal circulation is shown, not only by the escape of serum and blood from the Malpighian capillaries, but also by the remarkable hypertrophy of the muscular coats of the renal arteries, a fact which Dr. Johnson first communicated to the Medico-Chirurgical Society. (See the *Transactions*, vol. xxxiii.) In an analogous manner the impediment in the systemic capillaries is indicated by the frequent concurrence of hypertrophy of the left ventricle of the heart with chronic renal diseases, when there is no disease of the valves or large vessels to account for such hypertrophy. This fact was long since pointed out by Dr. Bright, and Dr. Johnson's explanation of it was in some degree anticipated by Dr. Bright.

At the conclusion of his second lecture, Dr. Johnson gives the history of suppurative nephritis, and shows that the pus is first formed within the uriniferous tubes, that it takes the place of the epithelial cells, and that it appears in the urine in the form of "purulent casts" of the tubes. He gives the history of a case in which a rapidly fatal suppurative disease of the kidney appeared to originate in the same morbid condition of blood as had previously led to the formation of numerous boils and carbuncles in the same patient, and he supports his opinion that a carbuncle depends on some poison in the system, by an extract from Sir B. Brodie's *Lectures on Pathology and Surgery*, containing the account of a case in which the sudden disappearance of a carbuncle was followed by quick collapse and death.

In the course of this second lecture, Dr. Johnson illustrates a general proposition, which he announced in his first, that all the phenomena of renal disease have an essentially beneficial object and tendency;—that, for instance, the desquamation of renal epithelium is a means for eliminating some abnormal products from the blood, as the cutaneous desquamation after scarlatina probably effects the same object.

The third lecture contains some new and interesting observations, relating to what Dr. Johnson proposes to call *non-desquamative disease* of the kidney, which occurs, he says, both in an acute and a chronic form. He illustrates the acute form of this disease by a case which proved fatal in five days. The urine was scanty and highly albuminous, but contained neither casts of tubes nor renal epithelium. The kidneys after death presented no evidences of the desquamative process. Dr. Johnson considers that the absence of desquamation was an unfavourable circumstance for the patient, and probably the cause of the fatal poisoning of his blood. He illustrates this position by referring to the phenomena of the eruptive diseases, and to the well-known fact, that as the eruption of small-pox is a means of eliminating a poison, so the absence or imperfect development of the pustules is sometimes a sign of fatal import. He then explains the phenomena and the diagnostic signs of the *chronic non-desquamative disease*. The urine commonly contains an abundance of albumen, its specific gravity is as often above as below the normal standard, its colour is natural, and after standing the urine is either free from sediment, or it deposits a light cloud containing some fibrin-

¹ Med. Chir. Trans. vol. xxx; LONDON JOURNAL OF MEDICINE, Feb. 1851.

ous casts, the uniform small diameter of which—about 1-1000 inch—clearly indicates that they have been moulded in tubes which have a perfect lining of glandular epithelium. The kidneys after death are large and pale, with a smooth surface. The glandular epithelium has an opaque granular appearance, and some tubes have their free canals filled with the fibrinous material which forms the “small waxy casts”. The vessels undergo the same changes as in cases of the chronic desquamative disease, viz., a gradual thickening and opacity of the Malpighian capillaries and hypertrophy of the arterial coats. The increased bulk of the kidney appears to be chiefly due to the hypertrophy of the glandular tissues, which results from the excess of morbid materials, and of uneliminated excrement in the blood; this hypertrophy being in some respects analogous to that of one kidney, when, from some accidental cause, it has to do the work of two.

Dr. Johnson shows that this chronic non-desquamative disease, sometimes passes on to one form of fatty degeneration of the kidney, “the granular fat kidney”, the transition being indicated by the appearance of “oily cells and casts” in the urine; and he suggests that the fatty degeneration of the epithelial cells may be one of the consequences of the impeded renal circulation, which results from the imperfect excretion of urine, as local patches of fatty degeneration of the heart are sometimes associated with a diseased and more or less impervious condition of the branches of the coronary arteries which supply the degenerated tissues. He points out the distinction between the “granular” and the “mottled fat kidney”. In the former, the oil appears only in certain sets of tubes which form the characteristic yellow granulations, the surrounding tubes being nearly or quite free from oil; while in the mottled fat kidneys, all the convoluted tubes are pretty uniformly filled with the oily contents of their epithelium. In the case of the granular fat kidney, an albuminous condition of the urine may have existed for months before any oil appears in the urine or in the kidneys; but the mottled form of fatty degeneration may have made great progress without the occurrence of albuminuria.

Dr. Johnson, in the course of his lectures, insists upon the fact that accurate pathology and diagnosis are absolutely essential for the rational and successful treatment of disease; and he concludes with the prediction that, on account of the unusual facilities for the study of the diseased conditions of the kidney, “renal pathology and diagnosis will soon attain to that degree of accuracy which already characterises the anatomy and physiology of the kidney”.

TWO CASES OF FEMALES WHO HAD ATTAINED THE AGE OF FORTYEIGHT WITHOUT HAVING MENSTRUATED. BY DR. OLDHAM.

CASE I. Maria B. appeared among my out-patients at Guy's, March 1, 1851. Her immediate ailments were unimportant. She was forty-eight years of age; a tall, rather masculine woman, with large, full mammæ, and a well-expanded pelvis. The upper lip was without hair, but some few hairs had grown upon her chin. She was married at fifteen years of age, and her sexual desires had been natural, but she had been sterile. She had suffered occasionally from pelvic and abdominal pains, but there had been no regular menstrual or periodic uterine effort, or any supplementary flux of blood or other discharge from any mucous membrane of the body. Her general health has been good, and she has lived well—in the neighbourhood of London.

The external sexual organs were fully developed, and the pubis was abundantly covered with hair. The vagina was a deep canal, normal in shape, and healthy. The uterus was well placed, of natural weight and mobility, and vaginal cervix well formed, but there was no os uteri; the site of the os could be felt by a slight dimpling, and by the speculum it could be

seen; but it was quite impervious, and some small blood-vessels appeared to pass over it.

CASE II. Mrs. M. called at my house in January 1852, complaining of severe pains in the loins and lower abdomen. She stated that she had never menstruated. At her request, I admitted her, under my care, into Guy's, January 28th, 1852. Her immediate ailments were relieved by a blister to the loins, tonic medicine, regimen, and rest; and she left the hospital quite recovered. Mrs. M. is forty-eight years of age; of a light, delicate frame; dark hair and eyes; a native of Norfolk; but a resident in London for the last twenty years; in poor, and sometimes very reduced circumstances. She has been twice married; both husbands have been healthy men, but she has been sterile, although her sexual feelings have been natural.

Both before and since marriage she has had leucorrhœa; at no time profusely; but, since marriage, it has been muco-purulent; sometimes yielded in small lumps; and has occasionally increased in quantity; but neither from the sexual organs nor any other part of the body has there been anything like a vicarious menstrual discharge.

She has the aspect, form, and sexual development of a healthy person, without the physiological defect which she has suffered, and of which she is painfully conscious. The mammary glands are developed, and are sometimes tender, and yield a lactescent fluid. The pelvis is well expanded; the pubis, labia, and external organs normally developed. The vagina is of normal size and shape, and the uterus well placed, moveable, and free from any defect or disorder, either congenital or acquired. She has a light, soft hair developed on the lips, but not more than many other women; and her voice is fairly modulated.

LOCAL TREATMENT OF ULCERS OF THE LEG.

BY H. T. CHAPMAN, ESQ.

This paper contains a variety of sensible remarks upon the local treatment of the various kinds of ulcers of the leg.

In speaking of the application of blisters to *callous ulcers*, the author remarks:—

“Instead of applying a blister large enough to cover the ulcer and a considerable portion of the surrounding skin, I found it quite sufficient to paint, with a camel's hair brush dipped into acetum cantharidis, from a quarter to three-quarters of an inch of the skin at the margin of the sore, making this streak wider or narrower, in proportion as the induration extended to a greater or less distance from it. When the integument itself is in a callous, horny state, several coatings of the liquid may be required; and it should be allowed to dry before the leg is dressed. It rarely happens that much inconvenience is felt during the action of the blistering fluid, the patient being able to bear the pressure of a bandage lightly applied, and to take moderate exercise; sometimes, however, it causes a good deal of pain, and it becomes necessary that the limb should be laid up for twenty-four hours. Within this period vesication is usually accomplished to the requisite extent, and the detachment of the thickened cuticle, together with the flow of serum from the exposed surface, lowers the elevated margin quite as effectually as the larger blister.

“But the rise of granulations which ordinarily follows the dispersion of the indurated sub-stratum of an ulcer, is only the first step in its progress towards healing; and unless the sore be still carefully tended, it will speedily relapse into its former indolent or callous state. In all cases, therefore, as soon as this step is gained, no time should be lost in applying either Baynton's bandage, or the simple substitute for it which I employ; since upon no other after-treatment can we so confidently rely for bringing about a sound and lasting cicatrisation.

"When most successful, a repetition of the blister is often called for, the margin of the sore manifesting a disposition again to become thickened and indurated as it decreases in size."

The following is the author's summary of his remarks upon, first, the comparative value of rest, and support by bandaging; and secondly, upon the relative position which topical applications ought to hold with respect to these two principles:—

"It appears, then, *first*, that although *both* rest and support are especially adapted to counteract that morbid condition which is the substantial source of the intractability of ulcers on the leg, almost all writers on the subject agree in expressing great doubts of the permanence of the cure accomplished under the influence of the former. But, were they equally to be relied on for completing and maintaining the cure, in by far the majority of cases the circumstances of the patient absolutely prohibit the efficient employment of rest. On the score, therefore, both of its superior efficacy and of its expediency, the weight of experience may be very decidedly quoted on the side of support by bandaging.

"And, *secondly*, if Whately and Baynton, by demonstrating that careful and judicious bandaging is capable of superseding topical remedies altogether in a very extensive range of cases, exposed, on the one hand, the fallacy of that exaggerated opinion of their virtues which was formerly entertained, it is clear, on the other, that they fell into the opposite error, and formed much too low an estimate of their real claims to consideration. And this mistake not only rendered their own practice less successful than it might otherwise have been, but has contributed to turn the scale once more in favour of rest employed in combination with them. Many of them are unquestionably very servicable auxiliaries to both rest and support; the more important are essentially necessary as preparatory measures for the latter. But the fullest recognition of their true claims in no way brings them into competition with either principle, in relation to which they are no more than subsidiary forces, and ought never to have been raised to the rank of equivalents.

"To come back, therefore, to the point from which we started, 'instead of limiting our resources, by taking up and advocating any one remedy or line of practice exclusively,' I contend that, while we show a readiness to avail ourselves of *all* special measures, constitutional as well as local, which are calculated to meet the numberless exigencies of the complaint, the bandage, properly constituted, must ever be looked upon 'as the necessary superaddition to, or complement of,' all other means of cure whatsoever."

TREATMENT OF POLYPI OF THE EAR. BY JOSEPH TOYNBEE, ESQ.

(Concluded from p. 396.)

"GLOBULAR VASCULAR POLYPUS. I have given this name to a growth which differs considerably from those comprised in the two preceding classes, in consisting of a single globular mass, perfectly smooth on its surface, without any appearance of granulations; it is confined to the inner fourth or sixth of the meatus, from the upper part of which it is usually developed, and it hangs down like a curtain, wholly or partially concealing the membrana tympani. It is of a deep red colour, and softer than the common vascular polypus; and it does not generally increase to a larger size than an ordinary pea. This growth generally occurs in children or young persons; it is attended by a mucous discharge, which is generally offensive, and, like the secretion accompanying the other forms of polypus, it consists of epidermoid cells, which give a milky appearance to the water, and also of fine threads of mucus. This kind of polypus may exist during several years without producing any severe symptoms; it has hitherto been comprised under the general term 'otorrhœa'. It may be distinguished from the dis-

ease I have elsewhere called chronic catarrhal inflammation of the dermoid meatus, in the discharge containing flocculi of mucus, like small particles of thread, and upon its always presenting a red mass at the inner extremity of the meatus. This affection also differs from catarrhal inflammation of the meatus, in not terminating in disease of the bone, the discharge apparently proceeding from the surface of the polypus only, to which part the disease is limited. The affection of the ear with which the globular vascular polypus is most liable to be confounded, is catarrhal inflammation of the mucous membrane of the tympanum. In some of these cases, the mucous membrane of the tympanum is of a deep red colour, and so much tumefied that it projects into the meatus for a line or a line and a half beyond the position occupied by the membrana tympani previous to its destruction. Upon examination of the growth by means of a speculum and lamp, it is not easy to determine which of the two diseases above noticed is present. The examination of the discharge is, however, sufficient to decide the question; although in both affections there is floccular mucus present, that accompanying the polypus is composed of small thread-like particles, while that emanating from the mucous membrane of the tympanum presents large, irregular-shaped masses, having generally a yellow colour. The history of the case will also generally aid the surgeon in forming a diagnosis; the vascular globular polypus generally appears without the manifestation of any very decided symptom; perhaps the appearance of the discharge is the first indication of its existence; whereas the affection of the tympanum generally originates in an attack of acute inflammation, and it often arises during scarlet fever or measles.

Treatment. The treatment which I am in the habit of following consists in having the meatus of the affected ear syringed out with tepid water, so as to remove all discharge, and after the ear has been turned towards the shoulder of the affected side, to allow of the water running out, three or four drops of an astringent solution are to be dropped into the meatus, and the ear closed for half an hour by a portion of cotton-wool moistened with it. This course may be repeated twice, thrice, or oftener, during the day, care being taken that the sediment from the solution be removed before the drops are again used. The preparations I have used are the acetate of zinc, the acetate of lead, alum, and tannin; but that first named has, I think, answered best. This species of polypus may often be removed in the course of a week, or from that to a fortnight; and, to prevent any congestion in the tympanic cavity, a slight discharge from the surface of the mastoid process has generally been kept up during the time that the astringent solution has been used."

After detailing some instructive cases, Mr. Toynbee concludes his papers with the following paragraph:—

"In reviewing the foregoing pages on the nature and treatment of the different kinds of polypoid growths in the external meatus, it is evident that no effectual plans can be carried out for their removal, unless a careful diagnosis be first made, as the remedies which will effectually remove one species of polypus are found to have no influence upon others. This diagnosis is made without difficulty, by means of a lamp and speculum, after the use of the syringe. The lamp which I should recommend to the surgeon when he sees patients from home, is the efficient and inexpensive one made by Mr. Miller, of 179 Piccadilly. It does not require the use of gas or fluid; it is very portable, and of use not only for the ear, but for the eye, mouth, and throat,—indeed, for any purpose for which a strong light is required. When the surgeon is seeing his patient at home, and can have the advantage of gas, Mr. Avery's lamp is to be preferred."

ON REMOVING LARGE TUMOURS OF THE UPPER JAW WITHOUT
CAUSING DEFORMITY. BY HENRY SMITH, ESQ.

MR. SMITH, with sufficient reason, deprecates the large incisions recommended by Liston and others. He says:—"Sweeping incisions are not required in most operations upon the upper jaw, but either on a great or limited scale, may be accomplished by means of incisions through the soft parts, which will leave scarcely any deformity. To Mr. Fergusson am I solely and entirely indebted for the knowledge of this fact." Within the last few years, he has seen the feasibility of removing great portions, and even the whole, of the upper jaw, with simply making an incision through the upper lip, and carrying it into the nostril of the affected side. The soft parts are so extensible, and there is such an amount of room obtained when the nostril is cut into and the ala dissected up, that a large flap may be lifted upwards and backwards from the upper jaw, so that the saw, cutting pliers, and other instruments may be effectually worked. It will, indeed, be found possible to clip through the nasal process of the superior maxilla, without further extending the incision in the soft parts. At first it would be difficult to believe this fact; but any one who has seen the operation performed will understand it, observing what an amount of room is gained by dissecting up the nostril. It may happen that a case will be met with in which it will be necessary to make more extensive cuts across the cheek; if, for instance, the tumour is excessively prominent, and involves the malar bone, or if it be deemed expedient to remove a portion of the skin."

OBSERVATIONS ON THAT PORTION OF THE "SECOND REPORT ON
QUARANTINE", BY THE GENERAL BOARD OF HEALTH, WHICH
RELATES TO THE YELLOW FEVER ON BOARD H.M.S. "ECLAIR",
AND AT BOA VISTA, IN THE CAPE DE VERDE ISLANDS. BY DR. J. O.
M'WILLIAM, F.R.S.

DR. M'WILLIAM repels the attack made by the Board of Health upon the conclusions contained in his Report on the Fever of Boa Vista, and charges the Board of Health with having treated the subject in an unfair and one-sided manner, inasmuch as he declares that their Report abounds with mis-statements, and that facts indispensable to a just and correct exposition of the case, are omitted.

Dr. M'William denies that there are even the slightest grounds for supposing that Porto Praga, or any of the other islands of the Cape de Verde group, were otherwise than healthy before the arrival of the *Eclair* with yellow fever at Boa Vista; and adduces the testimony of Dr. Nunes, the surgeon of Porto Praga, as well as that of others at the Cape de Verde, to prove that the alleged prevalence of yellow fever at Porto Praga at the period in question, is an assumption by the Board of Health entirely destitute of foundation.

With regard to the invasion of Boa Vista by a fever similar to that which raged among the *Eclair's* crew, and which is attributed by the Board of Health to the mere crowding of the crew at the fort, Dr. M'William urges that crowding of itself could not have produced a disease capable of reproduction in others. He produces evidence to show that yellow fever had not been known in Boa Vista within the memory of any living person; and considers it incumbent upon the author of the Report, to be at all consistent, to prove, or at all events to render it probable, that the soldiers first attacked at the fort would have contracted yellow fever from the mere congregation of the crew of the *Eclair* there, independently of the prevalence of that disorder amongst them. In a reprint of his paper, he alludes to the question put by Dr. Hosack, of New York, when speaking of cases of the

same kind forty years ago, when he asks,—“If a person visiting another ill of the yellow fever, or plague, derives his disease from the impure atmosphere of the apartment, how happens it that in all instances he contracts the same disease with that of the person whom he visits? Why is his disorder not an intermitted, or remitted, jail fever, or dysentery, which are considered the usual products of filth?”

With regard to the appearance of the yellow fever at Porta Sal Rey, the port of Boa Vista, in the person of Anna Gullinha, which is ascribed by Dr. King partly to a stagnant pool of salt water, partly to the odour from a privy, and also in some measure to an “epidemic constitution of the atmosphere invoked at this time,” by Dr. King and the Board of Health, Dr. M’William observes, that even supposing the locality (Beira) where this woman lived to be as bad as the authors of the Report desire to make out, it must be considered as a circumstance not a little extraordinary, that this same state of things should have existed for half a century without giving rise to yellow fever until this period, which had been preceded by some rather remarkable occurrence, viz., the arrival of the *Eclair* at the island with the yellow fever, the death of two soldiers, belonging to Boa Vista, at the fort from the same disease: the arrival at Beira of the two sick soldiers, from the place where the six of the *Eclair* had been lodged, and where they (the soldiers) had already lost two comrades from yellow fever. “It is somewhat strange, to say the least of it,” continues Dr. M’William, “that this disease should further mark for its first victim in Boa Vista the woman who cooked and performed other offices for those soldiers.”

Dr. M’William traces the disease in its progress over the island, to importation into each village from an infected district, after having shown why the soldiers of Boa Vista, who were in contact with the sick at the fort, were attacked earlier than the labourers who were employed on board the *Eclair*.

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FOR JANUARY, FEBRUARY, AND MARCH 1852.

[The catalogue of articles not analysed is omitted, as not being of sufficient value to occupy space.]

RESEARCHES ON AMMONIA; AND ON THE THERAPEUTIC PROPERTIES OF GUANO. BY M. RÉCAMIER.

M. RÉCAMIER is disposed to believe that the ammonia proceeding from different substances, and even from different organs of the same body, is not always identical—at least in its medicinal properties, whatever it may be in its chemical nature.

Having been informed that guano is employed in Peru in the treatment of diseases of the skin, M. Récamier has employed some, which was brought home to him by a captain of a vessel. The guano, on analysis, yielded uric, oxalic, and phosphoric acids; lime, potash, and ammonia; quartz sand; oxide of iron; and fatty matter. On being rubbed up with warm water, the water became yellowish, and disengaged an ammoniacal odour with a disagreeable aroma.

CASE I. A young woman, aged 21, had a pustular cutaneous disease, patches of which, larger than the hand, covered the limbs and trunk. This disease had for years resisted simple baths, the preparations of iodine, cod-liver oil, mercurials, sulphur baths, blisters, etc.; and, moreover, for some months there had been obstinate cough with fever, to remedy which all calmatives and derivants had failed. Menstruation was difficult and scanty.

Baths of guano were made with eight heaped table-spoonfuls of guano in sixteen pailfuls of water. After the third bath, which was taken at a temperature of 28 Reaumur, for fifty minutes or an hour, the cough and fever had ceased. After the eleventh bath, the skin was clean, and the health perfect.

CASE II. A lady, aged 46, had been afflicted for several years with an eruption covering the whole face, to which was also added acute fever with stomatitis, which nearly proved fatal through the extreme debility induced. It was impossible for her to take food. Guano baths were employed; and the patient felt better after the first. After the third, the general and the digestive powers were relieved; the mouth and face were becoming clean. After some baths, the good effect was still more marked.

CASE III. A young woman, affected in a similar manner with the subject of the preceding case, was remarkably relieved.

CASE IV. A countrywoman, aged 50, had, as a result of herpes, an ulcer more than ten inches in length on the right side of the body. After four or five baths, the pains, the ulceration, and the fever, had disappeared; and she could now sleep and digest her food.

ON THE THERAPEUTIC PROPERTIES OF ARNICA MONTANA.

BY M. MARTIN LAUZER.

Arnica montana is a plant belonging to the natural order *Compositæ*, and the Linnean class and order *Syngenesia polygamia superflua*. It grows in elevated places and on the mountains of the centre and south of France, in the Lyonnese district, on the Alps, etc. It is also found in the elevated woods and pasture lands of Lapland, Sweden, and Bohemia.

Botanical Characters. The root, or underground stem, runs obliquely for a short distance, giving off numerous fibres. From it arises a cylindrical stem, from 14 to 27½ inches high, ending generally in three flowers. The radical leaves are oval, from two to three inches long, marked like those of plantain. They are generally four in number; they lie on the ground, and embrace the stem with a short sheath. The leaves of the stem, generally also four, are opposite in twos; they are lanceolate, and smaller than the radical leaves. The flowers are large, of a golden yellow colour, placed at the end of the stem or of the branches. The receptacle of the compound flower is composed of two rows of equal, acute, open linear scales. The hermaphrodite florets are tubular, and placed in the disc, while the lanceolate female florets are at the circumference. The fruit consists of several oval grains, slightly compressed, and all crowned with a sessile feathery tuft.

Physical Properties. The roots, leaves, and flowers are used. The plant exhales, especially when bruised, a tolerably agreeable aromatic odour, and has a bitter and sharp taste, which is, however, not unpleasant. These properties are more marked in the flowers than in the leaves; and more in the leaves than in the roots, which are, however, far from being inert. Chemical analysis of the flowers has discovered a resin having the smell of the plant, a nauseating and emetic bitter matter, gallic acid, yellow colouring matter, albumen, gum, and various salts.

Physiological Action. Two series of actions are produced when arnica is given internally. The first, or primitive series, consists of more or less intense irritation of the digestive organs, ending in nausea or even vomiting, and accompanied by itching of the skin: the others are secondary, and consist of cerebral phenomena, such as tremors, nervous shocks, spasms, delirium, etc. In a large dose, arnica has produced severe accidents, such as hæmorrhage and sanguineous evacuations. Powder of arnica is a powerful sternutatory. The dried flowers and leaves are used as tobacco by the inhabitants of the mountains on which it grows. The leaves infused in water are used as a poultice to painful tumours, or to contusions, to favour resolution. It

has been most extensively used in medicine in all ages. The following list is taken from Murray; and the additions made by subsequent authors are also given.

Contusions, Ecchymosis, Sanguineous Tumours, etc. The efficacy of arnica in these affections was first discovered in Germany; and gained for it the name of *Fallkraut*, or *herba lapsorum*. It was formerly applied as a topical remedy; but at present it is more usual to trust to nature, and to employ rather camphorated spirits and saline lotions. It is not unreasonable, however, to give arnica internally after a fall, if the patient has, as often happens, undergone violent concussion amounting to stupor: but when reaction has set in, medicines of another class must be used.

Pulmonary Diseases. Murray extols the power of arnica in a host of various diseases; and, in the first place, we have pulmonary affections, of which the names have in the present day changed: such as pain in the side with dyspnoea, false pleurisy, humeral cough removing in the summer and autumn; cachectic and oedematous cough; asthma arising from sudden chill, with rheumatism of the chest and back; asthma following delivery, with alteration of the voice and pain in the nape of the neck; peripneumonia. The tonic and stimulant properties of the arnica would evidently be far from always serviceable in these diseases, some of which correspond to pneumonia and pleurisy, others to catarrhs, or to convulsive coughs. But, according to Dr. Roques, the nauseating properties of arnica have several times triumphed over obstinate catarrhs. In these cases, the arnica should be combined with pectoral medicines, and its use must be persevered in for some time. Arnica is no less useful, according to the same author, in cases of pneumonia of an ataxic character. In these cases, the arnica is given with extract of cinchona; this combination excites the powers of the system, reanimates the action of the lungs, and favours expectoration.

M. Martin Lauzer remarks that M. Guirac gives large doses of tartar emetic in chronic catarrh; and Professor Broussonet and Cruveilhier give large doses of ipecacuanha in the same affection and in the pneumonia of old persons; and suggests that arnica might produce similar effects, in such cases, to those of ipecacuanha.

Arnica has been recommended by various authors in inflammation of the liver with petechiæ, suppression of the menses or lochia, uterine hæmorrhage, congestion of the spleen, nodosities of the breast, general atony, hectic fever, atrophy, calculous nephritis, and contractions of organs.

Paralytic Affections. The writers of the last century have chiefly pointed out the effects of arnica in cases of paralysis. Juncker states, that he cured more paralysed and contracted limbs with arnica alone, than with combinations of remedies. Collin states, that he cured tremblings, convulsions, palsies, and other nervous affections. Under the influence of this remedy, the patients had pain in the eyes, creeping and tickling sensations in the limbs, and a sense of heat; and these phenomena almost always were prognostic of benefit. These effects are precisely those produced by strychnine; hence arnica would be a succedaneum for this formidable agent; and why should it not be employed before having recourse to the preparations of nux vomica? Collin says that, in cerebral affections, arnica is contraindicated until the fever has ceased, or has diminished; and then nitre must be added to it. Kornbeck extols the action of arnica in mercurial paralysis: it would evidently be only useful in asthenic palsies, in whatever situation. Dr. Roger relates the case of a woman who, after fever, had a sense of weight and loss of power in the lower limbs. Under the use of powder of arnica flowers, she experienced creeping sensations and pain, followed by complete restoration of motion and sensation. According to Collin, Murray, and Conradi, arnica has also cured cases of asthenic amaurosis: but M. Martin-Lauzer believes, with Schumucker, that it always fails in cases of amaurosis which have slowly gained their highest degree of intensity.

Spasms and convulsions : convulsive cough. Arnica, according to Murray, has cured tremblings of the limbs or tongue, opisthotonos, convulsive movements of the head, and twitchings of the limbs. If these affections are nervous, of asthenic origin, and consequently calling for the employment of tonics and stimulants, arnica may be of use.

Intermittent Fever. Collin, Stoll, Aaskow, Deiman, and Voltelen, praise arnica as a remedy in ague. Stoll was very successful in the treatment of a quartan, which resisted cinchona. He made an electuary with flowers of arnica and syrup of orange peel ; and gave a piece as large as a nutmeg four times a day. This dose caused severe pain in the stomach, and cold clammy sweats, with a large, full, and very slow pulse ; but opium calmed these symptoms, which, however, were the forerunners of a rapid cure of the fever.

Typhoid Fever. It was in the treatment of this disease that arnica enjoyed its best days ; but here its fame also suffered dire shipwreck, thanks to its abuse by the Brownians, who almost used it as a specific in continued fevers. Collin said that arnica, by its cardiac power, removes stupor, somnolence, and delirium, in putrid fevers, brings back the eruption of suppressed exanthemata, and resolves metastatic swellings. But Murray judiciously adds that, in order that the desired result may be produced, we must take account of the season and of general conditions ;—words full of justice, a reflection on which would have prevented the abuse of using a single remedy in a disease so variable in its form. Stoll, who introduced the use of arnica in putrid fevers, gave it only in those cases in which, the pulse remaining nearly quiet, the patient was feeble, stupified, prostrate, in a state of somnolence, or of muttering delirium. Arnica is also particularly indicated where the pulse is small, weak, and fluttering, with torpor and prostration of the muscular system. Dr. Roques says that it should be used especially in the enervating diarrhoea, in the obstinate dysenteric flux which, in the third stage of typhus, threatens to entirely destroy the vital powers. Murray recommends it, combined with camphor, when gangrene has supervened on other adynamic symptoms.

In the campaigns of the empire, the good effects of arnica in the army-typhus have been observed and recorded. Dr. Cazin, who used it successfully in the army hospitals during the campaign in Germany in 1809, has since that time frequently employed it in the adynamic stage of typhoid fevers, combining it with the roots of valerian and angelica, which dilute its emetic and cardialgic properties.

Gout. Barthez has recommended arnica in the treatment of gout. Dr. Roques was of opinion that the best treatment of gout is to torment the patient as little as possible with medicine.

Summary. Arnica is an energetic excitant, which is far from meriting the oblivion into which it has fallen. Its tonic, excitant, and emetic action, allies it to ipecacuanha ; and the nervous symptoms which it secondarily excites, give it some relation to the preparations of nux vomica. Gilibert considered it tonic and aperient in small doses ; and in large doses emetic, purgative, diuretic, sodorific, and emmenagogue. When given alone, it is liable to produce more less severe pain in the stomach. This may be prevented or assuaged by combining the arnica with a small dose of opium or some aromatic, such as angelica, canella, or ginger. But if its nauseating effects be desired, it must be given alone.

Doses and Modes of Administration. The *infusion*, according to the formulary of the hospitals of Paris, is made by infusing for an hour, a drachm of the flowers in a quart of water, and straining. The *decoction* is made with the same proportions : it is more powerful. The dose of the infusion may be as much as an ounce, sweetened with syrup.

The *powdered flowers* may be given in doses of from ten grains to three or four drachms, in electuary or bolus ; this form is preferable in cases of paralysis. The *powdered root* may be given in the same manner.

The dose of the distilled water is from an ounce and a half to three ounces

of the alcoholic tincture (one part of the root to eight of alcohol) from fifteen minims to five drachms ; of the ethereal tincture (one part of flowers to four of ether) from fifteen minims to two and a half drachms ; of the aqueous extract (one part to five of water) from seven grains to a drachm, in a draught or in pills ; of the alcoholic extract (one part of flowers to eight of alcohol and one of water), the same quantities.

For external use, the leaves and flowers may be used as a poultice : and the powder may be employed as a sternutatory.

Compound infusion of arnica flowers. (Roques). Take of arnica flowers, valerian root, each two drachms ; infuse them in a closed vessel with half a pint of boiling water ; then strain, and add, of peppermint water two ounces, simple syrup one ounce, ether a drachm, tincture of opium from fifteen to twenty drops ; to be given by spoonfuls in the adynamic period of typhoid fevers.

Compound preparations of arnica. The above-named preparations are advantageously combined with wine, cinchona, camphor, and valerian.

Compound powder of arnica root. (Roques). Take of arnica root in powder fifteen grains ; camphor three grains ; to be given every three hours in dysenteric typhus, to combat the prostration of the vital powers.

Stimulant bolus. Take of camphor, arnica flowers, and treacle, each fifteen grains ; divide into twelve boli, and give one every hour.

Stimulant electuary. Take of powdered arnica root an ounce and a half, crude opium three-quarters of a grain, syrup a sufficient quantity. Divide it into six doses ; one to be given every two hours in cases of purulent absorption.

Aromatic tincture of arnica. Take of arnica flowers an ounce and a half ; cloves, canella, and ginger, each two and a half drachms ; anise, three ounces ; alcohol, a quarter ; macerate for eight days, and strain. A spoonful in water two or three times a day in contusions.

ON THE DISEASES OF THE FOLLICLES OF THE VULVA.

BY M. HUGUIER.

ANATOMY. The glandular organs of the vulva may be divided into two classes ; the sebaceous and piliferous ; and the muciparous glands.

1. The *sebaceous and piliferous follicles* are met with on the clitoris, the labia majora and minora, and towards the genito-crural folds. Of those on the labia majora, some are simply secretory, while others at the same time give rise to hairs. These sebaceous follicles produce a thick, whitish, unctuous secretion, of a very penetrating odour. In the labia minora, where they are free from hair, they are situated in the thickness of the mucous membrane, or moderately below it, in the cellular-vascular tissue : and are very numerous. They are of the size of a millet seed, are of a yellowish grey or even yellow colour. The secretion serves, by its unctuous properties, to preserve the moisture, softness, and special sensibility of the external genital organs, and to protect them from the irritating contact of the urine and the vaginal and uterine fluids. When they exceed the size above named, the sebaceous follicles ought to be considered as diseased ; being evidently hypertrophied.

2. The *muciparous glands* present two forms. Some are scattered here and there, placed side by side, or even grouped in patches. They may be called isolated or agminated muciparous follicles. The others are united, laid one on the other, and enveloped in a common membrane : they end in a single excretory duct, forming a glandular body which M. Huguier terms the *vulvo-vaginal gland*.

a. Isolated muciparous follicles. Eight or ten of these are found at the vestibule ; the others are situated round the meatus urinarius, on the anterior tubercle of the vagina. As they are often agminated, the name of prostate in the female has been given to them. More numerous than the

preceding, they are more deeply seated; and their openings, concealed by the anfractuosities which the middle tubercle of the vagina frequently presents, may escape a cursory examination. They lie parallel to the urethral canal, under the mucous membrane of which they are sometimes found. They are more agglomerated than the follicles of the vestibule; in some cases, several of them have a common excretory duct. When these glands are inflamed, their orifices, being of a lively red colour, form a sort of dotted line round the meatus urinarius, in the form of a horseshoe with the concavity directed upwards.

Haller describes on the sides of the urethra other more superficial follicles, several of which have a common orifice at the bottom of a conical depression. But M. Huguier does not find these to be constant.

Some women also present, in the sides of the vulvar orifice, immediately beneath the hymen and the superior carunculæ myrtiformes, one, two, or three large follicles, described by Morgagni; these must not be confounded with the vulvo-vaginal gland.

b. Vulvo-vaginal gland. This agglomeration of muciparous follicles, already pointed out by Duverney and Bartholin (1677), and more lately by other anatomists, has been newly investigated by M. Huguier. It is placed on the limits of the vulva and vagina, towards the posterior and lateral part of the latter, about a centimètre above the upper surface of the hymen or the carunculæ myrtiformes, in the triangular space formed on each side by the union of the rectum and vagina. It lies in the interval between the superficial and middle layers of the perineal fascia, and is about a centimètre distant from the ascending ramus of the ischium; two or three centimètres from the free border of the labium majus; and one centimètre from the genito-crural fold. When the gland is hypertrophied or engorged, it may be easily recognised by carefully feeling the internal and lower part of that fold. As it is placed on the course of the transverse line which separates the ano-perineal from the vulvar region, it must be sought for on the lateral and anterior part of the perineum, when it is desired to ascertain its volume.

The vulvo-vaginal gland on each side is not symmetrical with its fellow. It generally has the form of peach-stone; thus resembling the lachrymal gland. The configuration of the fluid also presents differences in various subjects, especially in women who have had several children. It is most developed from the ages of sixteen to thirty-eight.

An excretory duct, with very thin walls, having a varying average length of seven or eight lines, passes obliquely upwards, forwards, and inwards, and opens obliquely at the junction of the posterior third with the two anterior thirds of the orifice of the vagina. The orifice may escape observation, unless the mucous membrane be pushed downwards and outwards; and the position of the canal may be recognised by pressing gently upwards and inwards, when some mucus will flow out.

The vessels and nerves of the vulvo-vaginal gland are derived from those of the vulvo-vaginal orifice and clitoris.

INFLAMMATION OF THE FOLLICLES OF THE VULVA. *Cause.* Inflammation of the follicles of the vulva is more frequent in summer than in winter. Brunettes and scrofulous subjects are predisposed to it; but pregnancy is a special predisposing cause. Fatigue, diet, and irritant pommades, also favour its production.

Symptoms. In the eruptive period there is itching; the genital organs are more or less red and swollen, and present here and there, especially on the genito-crural folds, on the external surface and free border of the labia majora, on the base of the envelope of the clitoris, and on the nymphæ, very small red projections, which are easily felt, and vary from the size of a pin's head to that of a sweet pea.

At a more advanced period, there is irritation and pain, especially during

walking; and there is excessive secretion on the genital organs, with a strong odour. After a longer or shorter period, the follicles secrete pus. The little swellings become redder at the base, also larger and more projecting; they then become pale and yellowish; the pus then appears beneath the epidermis, and the pustules burst. The follicle may either cicatrise rapidly, or remain open, presenting a small superficial circular sore. This kind of ulceration may be confounded, if care be not taken, with those of syphilis. The pustules, when arrived at the suppurative period, do not all burst. Absorption of the pus may occur in some cases; for some time the follicle remains red, hard, and inflamed; and its central part, if exposed to the air, is covered with a small crust.

The disease may present its various stages at the same time on different follicles.

Inflammation of the follicles is not always so simple as has been described. In pregnant women, or in those predisposed by diet, fatigue, or long walking, the vulva is more or less swollen; its different parts are red, glued together, and covered with a gluey, grey, whitish, or purulent matter, resulting from the mixture of sweat, sebaceous secretion, and pus. Excoriations soon appear, chiefly on the genito-crural folds, and on the free edges of the labia majora and nymphæ. In this state, the genital organs of the female, from which emanates a most repulsive odour, present such a hideous aspect, that it is easy to understand how some practitioners have mistaken the true nature of this disease, and others have believed it to be syphilitic.

Diagnosis. In most cases, inflammation of the vulvar follicle is readily distinguished from erythema, eczema, acne simplex, erysipelas, and small furunculous abscesses; but it may be confounded with herpes, ecthyma, and especially with syphilis.

Herpes is distinguished from inflammation of the follicles, by being always preceded by derangement of the general health. It is, moreover, characterised by an eruption of robust vesicles, large from the commencement, while those of folliculitis are at first small. In herpes, the vesicles are superficial, lying beneath the epidermis; they are neither red, nor surrounded by an inflammatory areola; they burst, wither, and dry up very soon, most commonly without suppurating: when they do suppurate, the pus which they contain is rather an opaline matter mixed with serosity, giving it the appearance of whey, than true pus. When the vesicle of herpes is torn and the epidermis removed, there is a slight excoriation, without a depression, or at most with a scarcely sensible one. In vulvar folliculitis, the ulceration is deeper, but less extensive. Pressure on the follicle often causes the exudation of pus, or of sebaceous matter, sometimes both together; the lacerated vesicle of herpes gives exit at most to a little reddish or sanguinolent serosity. Herpes leaves no cicatrix; the other disease often does. And the two affections differ from each other in their progress and duration.

Ecthyma, in its simple form, has more analogy than herpes with folliculitis. It is, however, often the result of general derangement of the health. It is never developed on the nymphæ, on the interior surface of the labia majora, or on the perineum, and very rarely in the genito-crural folds. When ecthyma attacks the vulva, it is situated on the clitoris or free edge of the labia majora. It rarely is present alone on the genital organs; for the surface of the body generally also presents traces of it. The pustules of ecthyma are less numerous and more superficial and larger than those of folliculitis; they sooner suppurate, and are covered with a thicker yellow crust. In ecthyma, the eruption does not present successive stages. Moreover, in this disease the vulvar follicles are found healthy, and there is no hypersecretion of fat and fetid matters.

Syphilis. It is chiefly with the various forms of syphilis that folliculitis of the vulva may be confounded; and this is a serious error. M. Huguier remembers with pain the case of a young married woman, weak, and in bad

health, who was driven from home when about to become a mother, through a mistake of this kind, committed by the physician under whose care she was.

In some cases, errors may be committed. In the early stage of folliculitis, when the inflamed follicles form pimples which may be accompanied by a discharge from the genital organs, the disease very much resembles those mucous tubercles which present themselves at first under the form of red shining papules, more or less numerous, small and round, like the inflamed follicles. A little later, when the follicles contain pus; when their aperture remains open, and gives exit constantly to purulent and sanious matter; when the neighbouring parts are excoriated here and there; when various parts of the vulva are irritated, and produce excessive secretion, accompanied with a discharge from the vagina or uterus,—it is very easy to confound folliculitis with primitive syphilis, characterised by incipient chancres and blennorrhœal discharge. The peculiar nauseous odour is almost the same in both; and, in both, there may be engorgement of the inguinal glands.

There are, however, certain differential characters. Folliculitis frequently occurs during pregnancy; syphilis is most common when the uterus is empty. Folliculitis commonly follows much fatigue, excessive masturbation, and too frequent sexual indulgence. Syphilis is never the consequence of either of these, nor of uncleanness. With some exceptions, it only appears after a suspicious intercourse. The promotive seat of syphilis is usually at the entrance of the vagina, at the base of the interior surface of the nymphæ; folliculitis commences indifferently on any part of the vulva. Syphilitic affections of the vulva are very often accompanied with inflammation and hypertrophy, and with fissures of the anal folds. These parts are generally intact in folliculitis: hæmorrhoids, if they exist, will not be mistaken for venereal complications. Folliculitis presents successive eruptions of pustules in various stages, which produce much less destruction than those of syphilis, the excoriations and ulcerations being always superficial or very limited. Venereal ulcerations rapidly increase and form chancres, extending in various directions, and perhaps running together. Mucous tubercles, when of primary venereal origin, coexist with other indications of syphilis; when connected with secondary disease, the history of the case, and the appearance of other symptoms on various parts of the body, will point out their nature. Yet there may be cases, in which it will be very difficult to form a diagnosis.

Folliculitis is liable to return; sometimes it appears to be habitual. In some cases, M. Huguier has seen it return three or four times in a year.

Treatment. After removing the cause, the remedies to be employed are demulcent lotions, hip-baths for twenty minutes or half an hour, and simple or opiate cerate. Rest, vegetable diet, and a refreshing ptisan, are also indicated. If these means fail, we must apply a poultice of potato-starch, covered with a piece of gauze, and bathe the parts with wine and water, or with decoction of roses, bistort, or rhatany. Cold hip-baths are also very useful. When the disease is obstinate, the parts must be treated with a strong solution of nitrate of silver, with a mixture of one part of acid nitrate of mercury in two of water, or, still better, with solid nitrate of silver, which must be held longer over the most diseased parts.

Constitutional treatment must not be neglected. If the patients are scrofulous, and the disease appears liable to return, tonics and astringents must be given. Moderate exercise and nutritious diet are also advisable. Careful attention to cleanliness, moderate diet, and occasional purgatives, are indicated for dark-complexioned patients, with a very oily skin, whose perspiration has a strong odour, and who often have pustules of acne on the shoulders.

The follicles of the genital organs are also liable to present other forms of disease, which M. Huguier, in an essay presented to the Academy of Medicine, has ranged under the head of acne, and stertomatoris and sebaceous cysts of the vulva, and hypertrophy and exdermoptosis of the vulvar follicles.

GAZETTE MÉDICALE DE PARIS.

APRIL and MAY 1852.

1. TREATMENT OF CANCER BY INOCULATION WITH SYPHILITIC MATTER. April 3.
- 2.* HABITUAL PRESENCE OF SUGAR IN THE URINE OF OLD PERSONS. By DR. A. DECHAMBRE. April 3.
3. EXPERIMENTAL RESEARCHES ON THE MODIFICATION OF ANIMAL HEAT BY THE INTRODUCTION INTO THE ECONOMY OF VARIOUS THERAPEUTIC AGENTS. By MM. DUMÉRIL, DEMARQUAY, and LECOINTE. April 3, 17, and 24. [To be continued.]
4. CASE OF MUSKET BALL REMAINING IN THE RIGHT GLUTEAL REGION MORE THAN FIFTY YEARS; with Remarks. By DR. RIPAUT and M. FOURCAULT. April 3.
5. VOMITING DURING PREGNANCY; ESPECIALLY OBSTINATE VOMITING. By M. P. DUBOIS. April 10.
6. DISLOCATION OF THE FIRST CUNEIFORM BONE. By M. P. MEYNIER. April 10.
7. COMPLICATED INTERMITTENT FEVER. By DR. A. BEAUFOIL. April 17.
8. NEW REGULATIONS REGARDING MEDICAL STUDIES. April 24.
9. NEW AFFECTION OF THE LIVER IN CHILDREN, CONNECTED WITH CONGENITAL SYPHILIS. By DR. A. GUBLER. April 24. [To be continued.]
10. TREATMENT OF DYSENTERY IN SPRING, SUMMER, AND AUTUMN. By DR. A. HASPEL. May 1, 8.
11. CASE OF RETENTION OF THE MENSES, FROM IMPERFORATE HYMEN. By DR. DE CASTELLA. May 8.
12. INDUCTION OF PREMATURE LABOUR. [In reference to the recent discussion in the Academy of Medicine in Paris.] By DR. STOLTZ. May 15.
13. VASCULAR CHANGES PRODUCED BY INFLAMMATION; preceded by a Sketch of recent works on Inflammation. By DR. LEBERT. May 15, 22.
- 14.* ABSORPTION AND GENERAL EFFECTS OF IODINE, USED IN DRESSING WOUNDS, AND IN SURGICAL OPERATIONS. By M. BONNET. May 15, 22.
15. SYPHILITIC INDURATION OF THE LIVER IN NEW-BORN CHILDREN. By M. P. DEDAY. May 15.
16. CASE OF ENLARGED SPLEEN DURING INTRA-UTERINE LIFE. By M. L. HAMON. May 15.
17. STYPTIC WATER OF M. PAGLIARI. By DR. SÉDILLOT. May 29.

ON THE HABITUAL PRESENCE OF SUGAR IN THE URINE OF OLD PERSONS. BY DR. A. DECHAMBRE.

DR. DECHAMBRE has examined the urine of several aged women in the Salpêtrière, in conjunction with M. Alvaro Reynoso; in all, or nearly all the cases, he found distinct evidence of sugar. He cannot yet determine whether there is any direct relation between the quantity of sugar and the degree of decrepitude. From his experiments, he merely as yet draws the following conclusion: *Sugar is habitually present in the urine of old persons.*

ON THE ABSORPTION OF IODINE FROM ULCERATED AND SEROUS SURFACES. BY M. BONNET.

M. BONNET has arrived at the following conclusions, from his investigations on the absorption of iodine.

1. Iodine, when applied to ulcers, or injected into the cavities of abscesses or serous membranes, is absorbed, and is found in the urine and saliva.
2. This absorption and excretion may continue for several weeks, without any affection of the general health.
3. This absorption and elimination produce a marked effect upon the system, and may effect remarkable benefit in constitutional scrofula, provided that the elimination of iodine by the urine,

as shown by the deep blue colour produced with starch, be kept up for six weeks or two months. 4. Blistered and cauterised surfaces absorb iodine readily; and after daily dressing them, iodine may be found in the urine and saliva. 5. By the application of iodine to blistered surfaces at a distance from the eyes, scrofulous ophthalmia may be cured, without internal remedies or local applications. Profound constitutional effects will be produced by applying iodine for several months after the moxa or cautery, so as the urine may always give a deep blue tint with starch and chlorine. 6. The only preparations of iodine which are constantly absorbed from ulcerated or blistered surfaces are the vapour and the ointment, made with thirty parts of lard, one of iodine, and two of iodide of potassium. This is especially preferable to the tincture of iodine. 7. The iodine may be detected in the urine and saliva by means of starch and hypochloride of soda; and the quantity may be judged of approximately by the intensity and persistence of the blue colour. 8. By the endermic method, not only the preparations of iodine, but also of hydrochlorate of ammonia, nitrate of potash, conium, etc., may be applied with more rapid and certain effect, than when they are applied to the sound skin.

TOPICS OF THE DAY.

London, June 28, 1852.

PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION. The twentieth anniversary assembly of this important Society will be holden at Oxford, on Wednesday the 21st and Thursday the 22nd of July. From the importance and variety of the subjects to be discussed a numerous attendance is expected.

The Council of the Association will meet on Tuesday the 20th, at 7 P.M., in the Town Hall, by permission of the Mayor. The first general meeting of the Association will be holden, by permission of the Reverend the Vice-Chancellor of the University, in the Convocation House, on Wednesday the 21st, at 10 A.M., when the President, Dr. G. S. Jenks, of Brighton, will take the chair, and afterwards resign it to the President-Elect, Dr. Ogle, Regius Professor of Medicine, Oxford. The first business will be the Report of the Council, which may excite a great deal of controversy, should it speak of the future rather than of the past. In any case, a variety of interesting topics are likely to lead to animating discussion, either when considering the Report, or in debate upon specific motions to be brought forward by individual members.

MEDICAL REFORM will necessarily occupy a large share of attention, as the Bill of the Association, already published in this Journal, is to be submitted for approval in a considerably amended form. Though some differences of opinion exist as to particular parts of the measure, we believe that the desire to carry out, with energy and unanimity, the soundest views which circumstances admit of, is so strongly felt, that not improbably a unanimous vote of adhesion may be attained. In connexion with the subject of Medical Reform, the recently passed Pharmacy Act will naturally call for attention. The evidence before the Select Committee of the House of Commons sets forth pretty fully the impropriety of passing this act, until a Medical Reform measure had been obtained. The Pharmacy Act is much less objectionable in its present state, than when it was introduced into Parliament; but still it is likely to do some harm. We beg to direct attention to the Blue Book, containing the evidence taken by the Select Committee. The witnesses examined were: C. Baschet, student in pharmacy; Sir B. C. Brodie, President of the College of Surgeons, Edinburgh; Dr. James Combe; Dr. John Rose Cormack; Dr. Edwards Crisp; Dr. John Gairdner, Edinburgh;

R. W. Giles, druggist; Dr. Marshall Hall; Dr. Hamberg, professor of pharmacy, Stockholm; Thomas Herring, wholesale druggist; Dr. Hofmann; Professor Kopp, of Strasburgh; Dr. T. C. Lewis; John Mackay, druggist, Edinburgh; Dr. Douglas MacLagan, lecturer on Materia Medica, Edinburgh; William O'Conner, Esq., London; John Probert, Esq., London; Dr. Robert Renton, Edinburgh; John Savory, chemist, in Bond-street; George W. Smith, druggist; John F. South, Esq., President of the College of Surgeons; Peter Squire, chemist, in Oxford-street; George Stillwell, Esq., in general practice at Epsom; R. B. Upton, Esq., clerk and solicitor to the Apothecaries' Society; Dr. James Watson, President of the Faculty of Physicians and Surgeons of Glasgow; Dr. George Webster, of Dulwich; Dr. James Arthur Wilson, senior physician to St. George's Hospital; Dr. Alexander Wood, secretary to the College of Physicians of Edinburgh.

DR. COWAN of Reading has given notice of his intention to move "that the Journal of the Association be published and edited in London in place of at Worcester, and that it be issued weekly in place of fortnightly." The leading articles in the last two numbers of the Journal have been devoted to arguments in favour of the *statu quo*: but as yet the subject has not been sufficiently opened up to display the merits of either side.

The past policy has been to make the Journal strictly and exclusively an Association organ; unobtrusive in its character, and avoiding as much as possible interference with other works by giving any periodical summaries of the progress of medical science, and by not noticing extra-Association medical politics. Dr. Cowan's revolutionary idea seems to be to overturn this conciliatory system, and boldly to supply the members of the Association with a weekly paper, which shall be not merely an organ of the Association, but likewise a comprehensive Medical Journal. The effect of such a change, if thoroughly carried out, it is easy to foresee; many members who are at present subscribers to this and other journals, will henceforth rest satisfied with the Journal of the Association; and gentlemen who are not members, solely from being unable or unwilling to pay the Association annual guinea in addition to their subscription to a medical periodical, will comprise both objects by paying a single fee to the Association. The Association would thus be a gainer at the expense of the medical press.

The editors of the Journal, Mr. Walsh of Worcester, and Dr. Ranking of Norwich, considering the very slender demands made upon their pens, are liberally rewarded. They receive between them £250 per annum, or in other words, about £9:16s. for each fortnightly number.

Among other important subjects to be brought forward at Oxford are the following:—The Injustice of the Income Tax as at present levied; Medical Ethics; and the Report of the Committee on Homœopathy appointed last year at Brighton. We have also heard that in some quarters a strong desire prevails to take steps with reference to Quack Medicines and Obscene Advertisements. A committee of a few zealous working men might do much good. It is truly sad to think that the national treasury of this mighty empire is partly replenished from such infamous sources.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY. This Society having in April last celebrated its sixty-fourth anniversary by the usual dinner, we have been induced to make inquiries about it; and we think that our readers will be glad to see how excellently the Society has worked; and we sincerely hope that all of them, who are eligible, will be induced by our remarks to join the Society without delay. The Society was founded in October 1788, by Dr. Denman, and six other independent physicians and surgeons of this metropolis, not one of whom probably expected to leave a family in a condition to derive benefit from its formation. These gentlemen established it to afford relief,

half-yearly, to the widows, and orphans under fourteen years of age, of such practitioners, residing within the limits of the jurisdiction of the College of Physicians, as should be elected members by ballot, and pay half-yearly a subscription of one guinea, for a certain number of years. Small was this beginning, and very small at first the grants awarded; but, by the kindness of its more wealthy members, by a careful management of its funds, and, more recently, by its enrolment as a Friendly Society, which has permitted its investments to be made in the fund for the reduction of the national debt, at an interest of $2\frac{1}{2}$ pence per cent. per day, the capital-stock of the Society has gradually increased to the large amount of about £51,000; and the grants for relief have increased likewise. We find that for the half-year recently commenced, a sum of £777 has already been distributed among thirty-three widows, twenty-one partial, and six entire orphans, making an aggregate sum of not less than £1,600 a-year spent by this Society in relief alone; an amount which places it very high in the list of Provident Societies, for we repeat, the Society only affords assistance to the widows and orphans of its members. We see that the present number of members is only about 350. Had we not positive evidence of this, we could not have believed that out of the large number of medical practitioners in Middlesex, and within seven miles of London, in Essex, Kent, and Surrey, only 350 can be found desirous to secure their wives and children from distress after their own decease, or, being already desirous of doing this, are able and willing to become members of this Society. It does prove an apathy which few indeed could suppose; for, though each practitioner hopes to leave his family able to support itself decently, yet stern truth shows that, in a large number of instances, this is not the case. In many a practice, begun under most favourable auspices, cholera, or fever, or accident, removes the husband and father, before he can lay by anything worth naming; or lingering disease eats up all the savings of years. We believe that this Society has as many members as it ever had; yet we find thirty-three widows having less than £50 a-year of *certain* income, the majority having nothing at all; and numerous orphans having less than £12 a-year certain, and this irrespective of the mother's income. We ask our readers, how many of them are certain to leave £50 a-year to their widows, and £12 a-year to each of their children? Yet, if they are not certain to do this (and we know but too well how few there are that can), they ought certainly to belong to a society of this kind. It is argued, that this Society does not promise to all comers a stated sum. We answer that that would be impossible; a subscription of double the amount would not afford so large an expenditure; and the progress of another society, established on such principles, is very far from encouraging. This Society is founded on better principles than such objectors would like. Its object is to relieve distress; it is fully capable of doing so; and its directors are desirous to extend its powers as much as possible. With this object, the laws are now under revision, and will doubtless be improved. Where restrictions are necessary, there only are they found; a liberal spirit has always presided over their meetings; and where assistance has been refused, it has been with deep regret that the principles of the Society did not allow of its being given.

We call upon the less affluent of our professional brethren, who reside in London or its vicinity, to join this Society as members, for the sake of their wives and children; we call upon the more affluent to do the same, that their guineas, given from pure benevolence, may become the support of their brother's widow and family; not forgetting that instances are well known in the Society, where practitioners of eminence have left their widows and children nearly destitute, from the smallness of their receipts, and the amount of their expenses, so that most unexpectedly have the directors been called on to vote them grants half-yearly for the remainder of their lives.

MEDICAL BENEVOLENT COLLEGE. This institution was established through the exertions of Mr. Propert, in June 1851, and in the brief space of one year about £10,000 have been raised for the accomplishment of its purposes, a circumstance which sufficiently testifies to its popularity.

The objects of the College are thus explained by the Council :—

“First—An Asylum, in which one hundred pensioners, who must be duly qualified medical men, or their widows (possessing incomes of at least £15 a-year), shall be provided with two furnished rooms each, and with such additional assistance and accommodation as the funds may permit. The Council, however, confidently hope that the Society will be enabled wholly to support some few deserving persons not possessed of the required income.

“Secondly—A School, in which a liberal education will be given to one hundred boys, the sons of duly qualified medical men; the majority of whom will pay £25 a-year each for education, board, lodging, and washing; while the rest will be orphans educated and maintained entirely at the expense of the Society.

“Thirdly—A Chapel, capable of accommodating three hundred persons.

“The outlay for a site and buildings, including fittings and furniture, is estimated at £20,000. The whole yearly expense in providing suitable allowances to the pensioners, in remuneration of officers, and other establishment charges, is calculated at £1,500.”

Some writers in the weekly journals bitterly complain because the form of the religion of the College is to be that of the Established Church. We are not members of the Established Church; but as Christians we can worship God in her temples, and we think that the established form of service is that which ought to be the form of the College, simply because a greater number of those who are to participate in its benefits are certain to belong to it. Individuals who, from conscientious scruples, cannot unite in the Church services, will, as a matter of course, have every facility afforded to them of joining in Christian worship in the way most agreeable to their feelings. Let us not therefore hold back from aiding in this noble cause through sectarian jealousy or mistaken conscientiousness,—those fatal rocks upon which both Churchmen and Dissenters wreck many an enterprise of Christian philanthropy. We have no sympathy with those who teach Churchianity as zealously as if it were the essence of Christianity: but we are of those who would rather have religion recognised in the College in connexion with the Church of England than not recognised at all. The chaplain ought to be a churchman: but ministers of all denominations ought also to have free access to those who seek their ministrations.

MEDICAL BENEVOLENT FUND. This admirable Fund is under the immediate patronage of the Provincial Medical and Surgical Association, and its interests are actively and judiciously promoted by its Secretary and Treasurer, William Newnham, Esq. of Farnham. Mr. Propert's scheme only provides for those who can leave their kindred, and reside in the College; whereas the Medical Benevolent Fund relieves the destitute without calling them within the walls of an asylum; and in an unobtrusive way supplies the wants of many who, by a little seasonable aid, are enabled to surmount temporary difficulties; or enabled to give something towards the domestic expenses of a friend or relative, in whose house such a contribution can obtain for them a congenial home. The institutions respectively advocated by Mr. Propert and Mr. Newnham are therefore not of the same character: and both are equally required by the condition of the medical profession. The two schemes may perhaps ultimately be united: but, in the mean time, we trust that each may, from its own peculiar merits, command a large amount of public support. We rejoice to observe that at the anniversary dinner (on the 30th May) of the Benevolent Fund, upwards of £500 were

subscribed. Upon that occasion, Lord Carlisle, the Chairman, in an eloquent speech coupled the health of Mr. Newnham with the toast of the evening.

EXTRA-URBEM LICENTIATES, AND THE NEW CHARTER OF THE COLLEGE OF PHYSICIANS. The following letter has been received by Dr. Laycock, in acknowledgment of the memorial of the Associated Extra-urbem Licentiates:—

“College of Physicians, London, June 22, 1852.
“SIR,—I beg to inform you that your memorial, addressed to the President of the Royal College of Physicians, has been laid before a Committee of the College, and has been received by them with the attention due to it. I am directed, however, to state, that no further means can be taken at present towards obtaining a new Charter for the College, on account of the impossibility of procuring an Act from the present Parliament. And I am to assure you, that, before any settlement is come to between the College and the Government, the arguments contained in your memorial shall receive the fullest consideration. I am, Sir, your obedient servant,

“FRANCIS HAWKINS, M.D. Registrar.”

BOARD OF EXAMINERS IN MIDWIFERY AT THE COLLEGE OF SURGEONS. This new Board is to be immediately formed. It will consist of one of the Vice-Presidents of the College, and three obstetric practitioners, who may either belong to the College of Surgeons or the College of Physicians. As usual, the number of candidates is overwhelming. We have heard that about a hundred and fifty have applied, which is fifty candidates for each place. The emoluments are to be derived from part of the fees; and it is calculated that the annual earnings of each examiner will not exceed £30 or £40!—most inadequate remuneration. The establishment of this Board is a step in the right direction; and we hope soon to see the whole system of the examination at the College of Surgeons raised in character, and brought up to the standard which was advocated by us at some length in a former volume.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. The meeting of this Association is to commence on the 1st September, at Belfast, all the different sections assembling under one roof, in the new Queen's College, which, as well as all the public buildings in the town likely to be useful in this great gathering of science, has been placed at the disposal of the Managing Committee. The influential inhabitants of Belfast are making great preparations for the accommodation and comfort of their visitors.

CORRESPONDENCE.

DR. SNOW ON CHLOROFORM. TO THE EDITOR.

SIR,—Dr. William D. Moore, of Dublin, has been kind enough to write to me, to point out an error in the latter part of my paper on the “Cause and Prevention of Death from Chloroform.” At p. 568 of the June Number, I have stated that there was no report of an autopsy in the case of death from chloroform which occurred at Stockholm. This was an oversight, as Professor Santesson has given a very precise and detailed account of the inspection after death, in the article¹ from which the account of the case given in an earlier part of my paper was taken. Dr. Moore has been so good as to translate the report of the autopsy for me; and the following is such an abstract of it as would have been introduced in my paper, if the mistake had not occurred.

“Brain softer than in the normal state, slightly œdematous. Its vessels somewhat distended. There were some opaque spots under the arachnoid, and long deposit in the dura mater, the result of disease at some former period. Heart of normal size, flaccid; the vessels on its surface distended with blood; the left

¹ Ett Fall af Död efter Chloroform, etc., af Prof. Carl Santesson. Published in the “Hygiea”, October 1850.

cavities were empty, whilst those in the right side were filled, as were the great veins. *Lungs* highly congested posteriorly, exhibiting here and there small infiltrations of blood. Pulmonary tissue otherwise sound. Mucous membrane of larynx and bronchial tubes congested. *Blood* everywhere thin and fluid, resembling blackberry juice. A little loose fibrinous coagulum was, however, met with in the right ventricle of the heart. It is stated that the odour of chloroform was perceived in the brain, and less distinctly in the lungs."

I am desirous that you should give insertion to this note, not only to supply an omission in my paper, but because the statement that no inspection was made after death, in so important a case, would be an injustice, both to Professor Santesson and the Seraphim Hospital.

I remain, Sir, your obedient Servant,

18 Sackville-street, June 23, 1852.

JOHN SNOW.

OBITUARY.

BERNARD, Henry J., Esq., for many years in large medical practice in the city of Wells, on 8th May, aged 72.

BOISRAGAN, Henry Charles, M.D., late of Cheltenham, at Bideford, North Devon, on 26th May.

BOOTH, Francis, Esq., M.R.C.S.Eng., late of Preston, Lancashire, at Ventnor, Isle of Wight, on the 10th May, of disease of the heart.

BUTLER, Thomas S., Esq., Assistant Surgeon H.E.I.C.S. (Bombay), at his father's residence, Brentwood, on 5th May, aged 32.

DAWS, —, M.D., formerly of Wisbeach, Cambridgeshire, at Washington, U.S., on the 10th March, aged 73.

Dr. Daws emigrated in 1819. The *Washington Intelligencer* says that "he always maintained a distinguished position in the ranks of his profession" in that city, and that "in the diagnosis of diseases he was pre-eminent". He is equally praised as a good citizen, and head of a family.

EVANS, Charles, Esq., Surgeon, aged 38, late of Margate, at Cairo, on 6th April, from the effects of a sun-stroke four days previous.

EXHAM, Thomas R., Esq., at his residence, Cheltenham, on the 6th May, aged 32.

FERRIER, John, Esq., Surgeon of H.M. ship *Impregnable*, in the Royal Naval Hospital, on the 3rd February.

FITZPATRICK, Mrs. Elizabeth, from decay of nature, at Brooklyn, New York, on 1st April, aged 145.

This venerable lady was a native of Scotland, and had been led from the altar by no less than eight husbands. Four of the matches took place in Scotland, and four in America. Thirty children (?) survive her.

HUGHES, John, Esq., M.R.C.S.Eng., at Liverpool, on the 26th April, aged 44.

HUTCHESON, Francis Pery, Esq., M.D.Aber., late Surgeon Royal Artillery, at Guernsey, on 9th April, aged 68.

MANBY, Edward, Esq., ("in practice prior to 1815"), formerly of East Rudham, Norfolk, at Lynn, on 8th May, aged 69.

MOORE, Matthew Scott, M.D., formerly Superintending Surgeon of the Madras Establishment, at Maddox Street, on the 26th April.

NEWINGTON, Charles, Esq., M.R.C.S.Eng., (1802), at Highlands, Ticehurst, Sussex, on 27th April, aged 71.

OSBORNE, Frederick W., M.D., at Sheffield, on the 7th January, aged 37.

PORTER, George, Esq., L.S.A., late of Peterborough, at Maddox Street, Regent Street, London, on the 26th April.

SMITH, John, Esq., Surgeon at Watford, Herts, on 1st June, aged 39.

THACKERAY, Frederick, M.D., Consulting Physician to Addenbrooke's Hospital, Cambridge, at his residence, St. Andrew's Street, Cambridge, on 18th June, aged 79.

In the *Medical Directory*, Dr. T.'s qualification is "in practice prior to 1815": and, from the same work, it appears that for twenty years he was Surgeon to Addenbrooke's Hospital, and for a like period Physician to the same institution.

WHITE, R. M., Esq., in St. John Street, Fitzroy Square, on 10th October, 1851, aged 51.

Mr. White was born at Portsmouth, on the 15th April 1800. He was the author of *Doubts of Hydrophobia: the Metrical Lord's Prayer* (1826);

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ORIGINAL COMMUNICATIONS.

HOME RESORTS FOR INVALIDS. ON THE CLIMATE OF GUERNSEY.

By S. ELLIOTT HOSKINS, M.D., F.R.S.

[*Read before the British Meteorological Society, May 25, 1852.*]

It is satisfactory to observe that the correlation between meteorological, medical, and agricultural science, is no longer the tacit recognition of an abstract theory; recent treatises on medical topography, and the effects of climate on cultivation, prove that the influence of atmospheric phenomena on animal and vegetable life is engaging some degree of attention: not however, as yet, to the full extent which the practical importance of the investigation merits and requires.

A powerful impulse was given some years ago to the study of meteorology, by the publication of the Report of the Committee of Physics of the Royal Society, intended principally for the guidance of persons attached to the Antarctic expedition. The instructions it contained, together with its suggestions as to the advantage of systematic co-operation, were speedily adopted by government and other public observatories, as well as by a number of private individuals; and the anticipations entertained, that uniformity of plan, steadily adhered to for a few years, would furnish the most perfect data for its own correction, have been fully realised.

The methods of ascertaining and applying these data are due to James Glaisher, Esq., F.R.S., whose extensive computations and inductions contribute in an eminent degree to advance the science of meteorology many steps in its progress towards maturity. This gentleman's invaluable tables on diurnal range, reprinted from the *Philosophical Transactions*, at the suggestion of the society I have the honour of addressing, afford facilities for reducing a few observations, taken at the most convenient hours of the day and night, to mean monthly values.

The consequence is, that much labour, under other circumstances useless, is being rendered valuable, and many individuals, previously mere amateurs of science, are converted into zealous and efficient coadjutors.

The results of many of their observations, published under Mr. Glaisher's supervision, in the Registrar General's Quarterly Returns, form an accumulating fund, from which accurate information relative to the more important elements of British climates, is becoming generally diffused throughout the civilised world. The number of contributors possessed of authentic instruments, and uniting in one uniform system of observation and registration, is considerable; they are stationed over an extent of country exceeding seven degrees of latitude, and nearly the same number of degrees of longitude, and their records are strictly comparable with one another, and with one official standard. Nevertheless, the labourers in the field of British meteorology are still too few; for, since more correct knowledge of the true characters of foreign climates has been attained, and our own has become more justly appreciated, valetudinarians are happily rescued from indiscriminate expatriation, and allowed to enjoy the numerous advantages afforded by many of our inland vales and sheltered bays; it becomes, therefore, desirable, if not imperative, that the sanitary qualities of these home resorts should be more extensively and minutely investigated.

There is unfortunately no unexceptionable climate, either at home or abroad, any more than an universal panacea "for all the ills that flesh is heir to". Each locality possesses peculiarities in respect to climate, and each may in turn be rendered available, when its characteristics are more extensively promulgated; various phases of disease requiring the presence or absence of some special element, or group of elements. "The limits within which persons of feeble organisation can enjoy life," said the late Dr. Mason, and he spoke from painful personal experience, "are more confined than those which are suitable for other persons; but the knowledge of these limits may serve to procure for delicate individuals health, and even longevity."

In order, however, to ascertain these limits, something more is necessary than a mere enunciation of mean annual temperature; many localities, agreeing in this one particular, differing *toto cælo* in others of much more vital importance; for instance, the distribution of heat and cold over months and seasons, the extent of mean daily range, but, more than all, the amount and diffusion of aqueous vapour in the atmosphere. Hygrometric observations are "equal in importance to any of those usually taken by meteorological observers, and superior to most of them, particularly in distinguishing the character of different localities"; for moisture has a much greater share in determining the effects of climate upon the human constitution than is generally imagined. "When," says Dr. Mason, "the humidity of various climates shall be as well known as their temperature, much greater precision will be attained in the localisation of individuals suffering under certain states of diseased action, whether constitutional or local, than has hitherto been arrived at."

The deficiency of hygrometric observations, and of the still more valuable deductions derived from them, has hitherto interfered seriously with the practical utility of the only comprehensive work we possess on the sanative effect of climate. Sir James Clarke, fully

aware of this deficiency, remarks, "much disappointment has been felt that, with the exception of three or four places, no data have been attainable, on which to form a table of the hygrometer." Since the publication of the last edition of his valuable work, much has been contributed on this interesting point, but so diffused over the pages of periodicals, serials, and proceedings of societies, as to be, in a great measure, unavailable to medical men engaged in active practice. To whom, nevertheless, such information would be especially valuable; for on them naturally devolves the difficult, and often ungrateful, task of directing invalids in the selection of the climate best suited to their pathological necessities.

The British Meteorological Society, founded upon the best models of other scientific and literary associations, will, it is to be anticipated, supply the existing deficiency. The principal objects of the society are the collection of accurate manuscript observations, the publication of tables, the reduction of observations to useful results, and the distribution of meteorological papers, so as to facilitate comparisons between various climates, home as well as foreign.

Frequent applications made to me, some years ago, for information as to the sanative influence of the climate of this island, induced me to examine the subject, so that I might be enabled to form a correct estimate, and give a conscientious opinion. Finding, however, that records of temperature, although more accurate than could have been expected, were not sufficiently extensive or continuous; that neither barometric, hygrometric, or hyetographic observations had been made, and that published accounts were either founded on insufficient data, or derived entirely from relative geographical position, I determined, in the summer of 1842, to undertake a series of observations, in accordance, as much as possible, with the instructions issued by the Royal Society. These observations have been continued without intermission up to the present moment; and latterly the corrected results have been regularly published in the Registrar General's Quarterly Returns.

These results, from January 1845 to December 1851, inclusive, carefully revised, are employed in the construction of the accompanying tables, which I trust will convey a sufficient amount of information for practical purposes, and render it unnecessary to offer more, by way of comment, than may be required for their illustration.

A paper on the climate of Southampton, by Mr. Drew, similar in all essential points to mine, but much more comprehensive, is printed in the Report of the British Association for 1851. It is to be hoped that Mr. Drew's example may be followed by other members of the Meteorological Society, as well as by others interested in the advancement of the hygienic department of medical science.

The results combined in the tables, present a fair average of hot and cold, dry and rainy years. It would be presumptuous, however, to assume that the characteristics of this, or any other climate, could be positively determined by observations extending over so brief a space of time as nine years. They may, nevertheless, be relatively valuable, by being placed in juxtaposition, year by year, and month by month, with those taken at the Royal Observatory. I have selected Greenwich for the purpose of comparison, not on account of contrast, but

because it is the acknowledged standard with which all results, duly corrected, may be most advantageously compared.

Before I proceed further, it will be proper to give a full account of the instruments employed, of their position, and relative bearings, as I fully concur in an opinion much to be respected, that omissions on these points are prejudicial, not only to the science of meteorology, but to the reputation of the observer.

The barometer employed until the end of June 1851, was one of Newman's, with an iron cistern and brass scale, made for the Observatory at St. Helena, and compared with the standard at the Royal Society. Unfortunately, the minutes have been lost, so that the correction for index error is wanting, as well as that for elevation above the mean level of the sea, amounting to 123 feet. Corrections for capacity, capillarity, temperature, and diurnal range, have, however, been carefully applied. The instrument now in use was made by Barrow, and compared with the standard at Greenwich by Mr. Glaisher. The tube requires no capacity correction; those for capillarity and index error amount to $+0.027$. It is placed in a dressing-room, in which the temperature is equable, and its readings are registered at 9 A.M. and 3 P.M. daily.

The thermometers consist of registering instruments, for maximum and minimum temperature, on Rutherford's construction; they are read at 9 A.M. daily, when the indices are re-adjusted: these, as well as a delicate wet and dry bulb thermometer, are made by Newman. They are grouped together about four feet from the floor of a shed, built for the purpose in a small garden, which receives no ray of sunshine from November to March. Nevertheless, a white double camelia japonica blossoms freely in this plot of ground, during the months of January and February. The aspect of the instrument is north by east; the nearest object is a dark blue granite wall, thirty feet distant, and ten feet high; a higher wall forms the western boundary; and a house front, with an intervening street, the eastern side of the otherwise open space they occupy. They are completely protected from radiation and reflection by an open trellis, and some shrubs, before and on each side of the pent-house. Until the end of 1848, the dew point was observed by means of Daniell's hygrometer, made by Newman; since that time, it has been computed from the readings of Mason's wet and dry bulb hygrometer, at 9 A.M. and 3 P.M., by the aid of Mr. Glaisher's tables.

The rain-gauge is a copper funnel twelve inches in area, forty-seven feet above the ground, which discharges its contents into a closed reservoir, from which the water is measured at 9 A.M., by means of a graduated glass jar. The receiving funnel is remote from walls, chimneys, or other influence.

The direction of the wind is chiefly ascertained by a very delicate vane, constructed according to Mr. Luke Howard's plan. In estimating its force, a calm is represented as 0; a gale as 6.

Believing that no station was better calculated than this, for ascertaining the force, direction, and variation of the wind, and that careful observations might tend to illustrate, if not elucidate, the laws of storms in these latitudes, I applied to the British Association, and also to the Royal Society, for a self-registering anemometer, for which a fitting site would have been a tower of considerable elevation recently

built, as free from the influence of reflected currents as a tall ship-mast in mid-channel. These applications, however, were not acceded to, but possibly led to the erection of an anemometer, by the ordnance department, in a position not calculated to afford results of more than local value.

In estimating the amount of clouds, a sky perfectly overcast is indicated by 10, a cloudless sky by 0.

TABLE I (p. 710) requires little or no explanation; it may be consulted as a general map, exhibiting the leading elements which constitute the climate, for the period of observation.

TABLE II (p. 710) shows that, although the pressure of the whole atmosphere, following the same line of fluctuation, is, with few exceptions, greater than that of Greenwich, the excess is not so great as might have been imagined. To account for this slight difference, the large amount of rain, the heavy dews, the absence of fog, the comparative degree of dryness, and other circumstances, must be referred to.

The highest mean occurred in 1850 and 1851, the former a moderately rainy, the latter a dry, but not the driest, year; in both the excess of air-temperature above that of the dew point was below par; whereas in 1848, a remarkably rainy year, the atmospheric pressure was at the minimum, with comparatively a high dew point. 1844, the driest year of the series, with the least number of wet days, shows the minimum excess of air-temperature over that of the dew point, and goes to prove, in connexion with other circumstances, that the smaller the amount of rain, the nearer the air approaches the point of saturation.

TABLE III. (p. 711.) In reference to the elastic force of vapour, Mr. Glaisher, in his remarks on the meteorology of England for the year 1847, observes, that "the mean pressure of the atmosphere of vapour seems to diminish 0.010 for an increase of one degree of latitude." The same ratio appears to obtain as the latitude decreases; for on comparing the elastic force at Guernsey, two degrees further south, with that of Greenwich for the same year, the increase of force amounts to .024, which, allowing for difference of longitude, and other disturbing causes, is a close approximation.

TABLE IV (p. 711) presents a view of the mean monthly range of the barometer at Guernsey only, where its fluctuations are generally moderate, but frequent. The highest reading (30.740) occurred on the 13th of February 1849, a very dry month, during which the aurora borealis was twice visible.¹ The lowest reading (28.500) took place on the 23rd of February 1843, a particularly hazy month; the rain, instead of descending heavily, as usual, fell in continuous drizzling showers.

TABLE V. (p. 712.) The values in this table are obtained from the means of the dry bulb at 9 A.M. and 3 P.M., and from those of the register thermometers, all corrected for diurnal range, the average results afford the adopted temperature. It is possible, as Mr. Glaisher observes, that the corrections do not at all seasons apply to maritime situations, I am inclined to think that during the months of May, June,

¹ On the 19th of February 1852, the Aurora again appeared; on the 22nd, the maximum reading of the barometer was 30.508, and continued high throughout March and April, during which the preponderance of north-east wind was remarkable. The coincidence of the highest barometer with the appearance of Aurora on both occasions is worthy of remark.

and July, the objection obtains, but for the remaining months the agreement is sufficiently accurate.

The mean annual temperature (51·9) is 2·5 above that of Greenwich; allowing one degree of increment for each degree of latitude,—taking into account the increase due to west longitude, and also the difference of level, there appears to be a very satisfactory coincidence between observed and calculated results.

February, here, as in all places south of latitude 52°, is the coldest month, but does not differ materially from January in this respect. The hottest month is July, but the temperature of August is the merest trifle lower. The uniformity between these months prolongs the summer, and determines the maturation of grain and fruits. In May, June, and July, the mean temperature of Guernsey is lower than that of Greenwich, but higher during the remaining nine months of the year. This distribution of heat renders the summer months cool and bracing, the winter, spring, and autumn, mild and uniform.

The alleviation of the winter's cold, and the lowering of summer's heat, in places on the coast, are thus accounted for by Mr. Glaisher: "In winter, when the air is colder than the water, it takes a portion of heat from the surface of the sea, which, cooled by being thus brought in contact with the cold air, sinks, and is replaced by warmer portions from beneath, whilst heated air rises and flows over the land. In summer, when the air is warmer than the water, much heat becomes latent, by the quick evaporation of the water. The water, changed into vapour, and mixed with the air as an elastic fluid, passes inland, takes a share in the total pressure of the atmosphere, and is of the utmost importance in reference to barometric variations."

The equability of autumn, and its duration, constitute peculiar features in the climate of Guernsey; for, notwithstanding the light north-east breezes of September, the storms and heavy rains of October or November, this season is often remarkably fine and genial, extending even to the middle of December, and abridging most agreeably the duration of winter. So frequent is the occurrence of this second summer, that it is proverbially designated by the peasantry as "*le petit été de Saint Martin*", in consequence of its dating in general from the 10th of October, old Michaelmas or St. Martin's day. The enduring foliage of the Guernsey elm, and the length of twilight, favour the illusion, and complete the reality of this summer dream.

Reverting to the distribution of heat and cold, it must be remarked, that the mean temperature does not depend so much upon the heat of the day, as upon the warmth of the night; in which respect the climate of Guernsey closely resembles that of Penzance. This is strikingly illustrated by the fact that, except in cases of severe illness, fires are not endurable in dressing rooms or sleeping apartments. The presence of ice, in water kept for the purposes of the toilet, is so rare, that the following memoranda, accompanied by notes of exclamation, occur in a journal of the weather, kept by a gentleman of this island, from 1777 to 1844: "Memorandum, December 20th, 1799. During the night the weather was so intensely cold, that the water in a jug in my bed-chamber was frozen." And again: "January 19th, 1838. This night the weather was so severely cold, that the water in a wash-hand basin in my bed-room was frozen!!!"

During my own nine years of observation, the readings of the thermometer, exceeding 75° , occurred sixty-five times, forty-two of which took place during the hot summers of 1846 and 1847. Once only, on the 16th of July 1847, it attained the unusual height of 83° . The number of readings at and below 32° , in the same period, amounted to no more than fifty, thirty-five of which occurred in the years 1843, 1844, and 1845. On the 29th of January 1848, the temperature fell as low as $24^{\circ} 5$, the maximum reading for the same day being 40° . The temperature is also stated to have fallen to $17^{\circ} 5$ in December 1840. These examples of extreme heat and cold are, however, exceptional.

From these details it will be seen that frost is neither frequent nor lasting; in proof which it may be mentioned, that the small ponds of fresh water, sparingly diffused through the island, seldom afford ice sufficiently firm to admit of skating; proficiency in this accomplishment is therefore denied to those who have not attained it in colder latitudes.

Hoar frost is also of rare occurrence, owing partly to the high night temperature, and partly to the constant presence of a breeze, more or less fresh. Neither is hoar frost general when it does take place, being confined to elevated and bleak situations, and chiefly limited to the months of January and February. Spring vegetation therefore is rarely checked by that condition which seriously interferes with early crops, even in the mild districts of Devonshire and Cornwall, where the husbandman is often driven to the necessity of protecting early vegetable productions by slight layers of straw, or to the more troublesome operation of lighting fires to windward during cold clear nights.

TABLE VI (p. 712). From the foregoing explanations it will be found, as might have been expected, that the mean daily and monthly range is moderate, giving to this island that equability of temperature so favourable to invalids, and persons of delicate organisation. This moderate range is so constant that, in the formation of comparative tables for different parallels of latitude, it has been found necessary to separate the two principal Channel islands. Mr. Glaisher says on this subject, "the results from Jersey and Guernsey have not been combined, on account of the great difference in the ranges of temperature between these two places."

The equability of climate is probably owing, in a great measure, to the more perfect insulation of Guernsey; the nearest continental headland, Cape Flamanville, being at the distance of twenty-eight statute miles, in a direct line to the eastward. On the north-east it is open to the German Ocean, on the west and south to the vast expanse of the Atlantic, without any intervening continent nearer than America. It is therefore evident that from whatever quarter the wind may blow, it is not intercepted by any land, of sufficient extent or proximity, to prevent its being tempered by passing over a much larger proportion of water.

TABLES VII, VIII, IX (pp. 713, 714). Persons who have experience in the fog-banks of the British Channel, knowing Guernsey to be placed in the midst of this channel, and consequently accustomed to contemplate it as enveloped in fog, haze, and mist, more or less dense and constant, will no doubt be surprised at the results revealed by hygrometric observation. The unexpected fact of the comparative dryness of its

atmosphere will, however, appear less strange when the accompanying tables, and especially the analytical table, come to be examined.

That the evaporation from so large a surface as the seas which surround the place, should produce an atmosphere more charged with vapour than that of an inland district, is not to be wondered at; but the difference between the air temperature and that of the dew point, being greater than, *a priori*, could have been imagined, the question arises,—what becomes of the humidity? The solution is to be sought for in the heavy rain, the copious dews, the constantly interchanging currents of air between land and sea, and the power of the sun's rays, which during the morning impinge directly on a surface declining steadily from west to east. These circumstances, added to the absence of rivers, marshes, or large bodies of inland water, account for the rarity of land fogs of any intensity, or duration. Sea haze is, however, by no means uncommon, especially in spring and autumn, forming what, on the Cornish coast, is called the “pride of the morning”; but it dissipates as soon as the sun acquires sufficient elevation, and, unless in the total absence of a breeze, never spreads to any extent over the land. The springing up of a light breeze, or the veering of the wind a point or two from south to west or east, suffices to disperse the vapour, and restores the blue of the sky to its usual depth of hue and transparency.

Allusion has already been made to the dew, which, in spring, but especially in autumn, is exceedingly copious, and does not evaporate until the sun has gained considerable elevation. This will, in some measure, account for the high point of condensation observable in October and November, when sunshine and wind, succeeding to heavy rain, combine to induce much evaporation.

The dew point increases from its minimum in February progressively to its maximum in July; it experiences slight fluctuation till September, and then somewhat rapidly declines. It is proportionately lower than that of Greenwich in May, June, and July, when the temperature is also lower. The mean annual difference, it will be seen, is 2·6, in favour of Greenwich. The degree of humidity appears to have preponderated during the snowy spring of 1845, and the dry years of 1850 and 1851, more than at any other period.

The amount of cloud has only been registered since 1849; it is therefore impossible to arrive at a proper estimate as to this particular, but a long course of unrecorded observation leads to the belief, that the mean of the last two years is not much below the average. The frequent variation in the direction and force of the wind induces speedy dispersion of cloud, and it is seldom that a day passes without the appearance of a considerable extent of blue sky.

The causes which principally modify the climate of Guernsey are to be found in the characters of the wind—not so much as regards the quarter from which it blows, as in its force and frequent variation—for instance, on the 30th and 31st of December 1852, the temperature, the cloudless state of the sky, and the direction of the wind (N.E.), were identical. But the one day was almost calm, on the other a fresh breeze prevailed; the former was warm and genial, the latter keen, unpleasant to the sensations, and trying to invalids. Little dependence can therefore be placed on the thermometer alone, as

affording a criterion of the effects of weather upon the feelings or the health.

The Tenth Table shows that the northerly winds predominate, the westerly combination being somewhat more frequent than the easterly. In autumn and winter, N.W. winds are generally strong and boisterous, with heavy gusts and squalls; the weather, however, between the showers, is not cold, and never frosty. Gales from this quarter may generally be foretold by the arrival of French chassemarées; the island is generally encircled by these storms some days before they appear, and when the masters of these small coasters observe heavy banks of cloud and mist hovering over Cape Frehel, they immediately alter their course, and steer for some secure haven; it is seldom that these harbingers of a storm are mistaken, and fortunately so, for westerly gales are in general very fatal to shipping off the coast during their occurrence.

A struggle for pre-eminence, between the N.W. and N.E. winds, generally leads to thunderstorms, with hail showers, and bleak, raw weather. If the N.E. prevails, a steady, but not boisterous gale ensues, which in January, February, and March is accompanied by frosty but fine weather; a few points to the north alter its character materially, and a breeze from N.N.E., blowing over England, in winter, generally brings with it heavy but brief falls of snow, with gloomy boisterous weather.

The north-east and east wind, so much decried, is by no means cold or unpleasant, unless strong or of long continuance. On the contrary, the finest weather in spring, summer, and autumn, is associated with light breezes from this point of the compass. Direct progression from north-east towards the south affords mild genial weather in summer, but in winter, the south-east wind brings with it frequent, but not heavy or lasting showers of snow, especially if cold prevails in France. This condition, recognised even by ordinary observers in the present day, appears to have been familiar upwards of two centuries ago. Lord Clarendon, who composed a large portion of the *History of the Rebellion* during his residence in Jersey, writes to Dr. John Earles as follows:—"And now I have but just answered your letter, and can hardly contain myself from saying something new, for the cold hinders me not, though I believe that we have had as sharp a season as you in Paris." This historical fact is corroborated by subsequent experience, and we are aware, that if cold appears early in winter in the south of France, it will entail the same description of weather in the Channel Islands, towards February or March; this was strikingly exemplified in the spring of 1845.

The south-west, here as elsewhere in the same latitude, is the rainy wind; the veering, however, a point or more to the westward brings sunshine and light showers. During early spring, if there has been continued snow and frost in England or France, followed by a sudden thaw, the south-west and south-east winds produce here a continuance of misty weather with drizzling showers.

At all seasons, a sudden retrograde motion of the wind to the south-east often ushers in a gale of some violence; if accompanied by rapid and considerable depression of the barometer, the passage of a rotatory storm is indicated, the wind during its continuance gradually veering

to the north-west or west. These storms never last beyond twelve hours, ceasing as suddenly as they arise, the violence with which they visit us being regulated by the proximity or remoteness of the centre of the vortex.

TABLE XI (p. 714). It will be seen by this table, that rather more than one quarter of the total amount of rain is collected in two months, those of January and October. At all seasons it falls in the form of copious showers, generally during the evening, night, or early morning, leaving the middle of the day fine; indeed, a day *entirely* rainy is of very rare occurrence, and the number of showery days is by no means in proportion to the total quantity of moisture deposited in the shape of rain, hail, sleet, and snow.

With respect to snow, the average number of days is four; in some years there is none at all, in others, only a few flakes; but in 1845 and 1846, and in 1849, frequent showers took place; all, from the slightest to the heaviest, are included in the average.

However great the amount of rain, it must be remarked that it never remains on the surface. The loose gravelly nature of the soil allows of ready percolation, the brisk wind and warm sunshine favour rapid evaporation, so that pedestrian exercise may be taken soon after the fall of the heaviest shower. Charles II, although the founder of the Royal Society, can scarcely be looked upon as high authority in matters of science; nevertheless, his well known remark, that, "take one day with another, and you may be out more days in the open air in England than in any other country in Europe", may be applied with much truth to Guernsey.

A few remarks may here be appropriately introduced relative to geological formation. Much need not be said on this subject, as Guernsey is entirely plutonic and azoic. Rocks, even of the lower Silurian series, are wanting, and none of the more recent formations are anywhere detectable. Granite exists in almost every variety, from hard, black, hornblende rock, to grey, blue, and reddish syenite, with superimposed gneiss, and intrusions of coarse porphyry, serpentine, micaceous and other schists. The surface of the rocks, in which felspar and mica predominate, is deeply decomposed, and therefore very permeable to moisture; the harder rocks contain innumerable fissures, so that water finds a ready issue, ultimately forming springs and rivulets of pure, fresh, sparkling water.

Lime is absent, traces only of its existence are to be found in narrow veins, intersecting a few of the trap rocks; the decomposition of hornblende affords a small supply of this material to the soil in certain districts, whilst the potass of the felspar forms a substitute in others. The combination of the elements of granite constitutes a friable, warm soil, peculiarly fertile, the more so, as the elevation is nowhere great. The latter fact is important in an agricultural point of view, for, as Mr. Whitby remarks, "where granite is found one or two hundred feet above the sea, the soil is remarkably early and prolific."¹

The result of this condition of soil, the rare occurrence of frost, and the abundant supply of moisture, is the production of early and luxuriant vegetables in great profusion.

¹ Journal of the Royal Agricultural Society, 1850.

With respect to forest trees, it has been observed, that about the middle of March, horse-chestnuts, sycamores, limes, Canada, Hampshire, and Devonshire elms, are in free leaf bud, and towards the end of the same month their foliage is fully developed. The ash, oak, and beech, follow somewhat later, and all shed their leaves towards the end of November. The Guernsey elm, however, a tree peculiar to the island, acquires foliage later in the season, about the middle of May, but retains its leaves generally until Christmas. This, by far the most abundant of the forest trees, lends the chief feature to the landscape, apparently retarding the usual appearance of spring. Viewed singly it is unpicturesque, rendered still more so by periodical lopping for economic purposes, but as it is predominant, and continues green until very late in the year, it imparts to the first month of winter the attributes of autumn.

The common lilac comes into blossom, with the horse-chestnut, between the 15th and 20th of April, at which period, and often earlier, apple and pear-trees are in full bloom; and the fruit of the peach, apricot, nectarine, and plum is permanent. In the latter respect, however, Guernsey must yield the palm to Jersey; but, if the one, with its high summer temperature, is confessedly the island of delicious and abundant fruit, the other, owing to the equability of its temperature, must be recognised as the garden of delicate and luxuriant flowers.

The frequency with which the aloe flowers, the vast size of the hydrangea, and the profusion of its blossoms, the spread and vigour of the myrtle and Banksia rose, the hardihood of the scarlet geranium, of the American and Mediterranean heath, but more than all, the luxuriance of the camelia japonica, attest the mildness of the winter season. The latter tree flourishes in every garden and shrubbery, either as a standard or trained against walls, and it is worthy of remark, as showing the effects of acclimatisation, that these trees, which on their first introduction commenced flowering in October, remaining covered with blossoms throughout the winter, have become tardier and more tardy in their period of inflorescence with each succeeding year, assimilating more and more to the habits of ordinary shrubs which bloom in early spring.

The following dimensions of three camelias trained against a south wall, eleven feet high, will convey some idea of the size these trees attain. The lateral extent of the double white camelia is twenty-five feet six inches, the girth of its stem being two feet eight inches. The spread of the double red is twenty-five feet ten inches, the circumference of the trunk two feet one inch. The camelia warata spreads eighteen feet six inches, its stem being one foot four in circumference. These trees are covered with blossom from January to April, and flourish in spite of frost, snow, wind, hail, and rain. Orange trees also of considerable size are to be found in this and other gardens, and ripen their fruit in perfection.

These are mentioned as instances, among many, that exotics which grow with reluctance, or not at all, in the mildest districts of England, flourish during the winter in this island, and, in summer, emulate the luxuriance which they possess in their native climates.

If, as Sir James Clarke observes, "more conclusive evidence in

favour of climate is furnished by the growth of exotic plants, than by thermometric results", the naturalisation of foreign shrubs and plants in this island may be triumphantly appealed to.

The foregoing details relative to the climate of Guernsey, although defective in many essential points, such as the electrical state of atmosphere, the force of the wind, the range and intensity of solar and terrestrial radiation, will I trust be found sufficient to afford my professional brethren some means of forming an opinion as to the qualities of this climate in reference to health and disease. This communication would be still more defective, if it did not contain some account of the diseases prevalent in the island. I have to lament that the absence of systematic registration prevents me from giving any official information on the subject of vital statistics, and obliges me to rely almost entirely on the results of my own experience.

The type of fever most frequently requiring treatment, is the remittent, sometimes complicated with sub-acute inflammation of various tissues, almost invariably the mucous. These fevers are most common in the low parts of the town, or along the coasts, when a wet summer has been followed by a warm autumn. When neglected in the incipient stage, or when the local atmosphere is vitiated, they assume a typhoid character, but under more favourable circumstances are mild and tractable. Genuine typhus, in a epidemic form, seldom occurs, owing to the natural facilities afforded for drainage in the town, and to the cleanly substantial dwellings of the peasantry, and their temperate habits.

Ague, which half a century ago was prevalent in a certain district, then partially submerged, has now entirely disappeared, owing to the exclusion, by embankment, of an arm of the sea, which overflowed and laid waste a tract of low land in the north of the island.

Scarlatina, measles, and other diseases incident to childhood, are in general mild. During cold winters and springs, however, scarlatina sometimes assumes a congestive form from the commencement; this is succeeded by inflammation of the lining membrane of the frontal and adjacent sinuses, with defluxion of acrimonious humours from the nostrils; and cases so affected are almost invariably fatal, from the supervention of cerebral symptoms. This intractable and insidious form of disease is frequently attributable to defective local drainage, which being remedied, the disease assumes a milder character, even in houses wherein it has previously been fatal. An ill-conditioned stench-trap is sufficient to turn the scale.

From the introduction of vaccination into Guernsey, at the commencement of the present century, to the year 1825, small-pox made its appearance only once, as far as I can ascertain. It has since then visited the island more frequently; but as its advent is invariably traceable to importation, and as insular position affords ready means of detection, its propagation might easily be prevented.

Pleurisy, pneumonia, peritonitis, and indeed all acute inflammations of serous tissues, or parenchymatous structures, are rare, being, as it were, replaced by sub-acute inflammation of the mucous membranes, such as bronchitis and muco-enteritis. The former occurs in winter and spring, the latter in autumn, partly owing to atmospheric transitions, and partly to the effects of the large quantities of fruit grown on the island, or imported from France.

Another disease of rare occurrence is acute rheumatism; its chronic

form, however, is not uncommon among the peasantry, many of whom are also fishermen, who, after being exposed to the vicissitudes of weather during the day on land, pass their nights at sea in open boats.

The most predominant malady is dyspepsia, popularly denominated "biliousness"; less, attributable, however, to climate than to errors of diet. It affects the peasantry, owing to their meagre diet of thin soup, tea, and fish, with seldom any animal food except a modicum of bacon. The town residents also suffer, but from an opposite cause—the cheapness and abundance of the luxuries of the table. Nevertheless, vesical calculus is a rare phenomenon, and lithic acid deposits by no means so frequent as the prevalence of dyspepsia would lead one to imagine. Disorders accompanied by the phosphatic diathesis are still more rare. It becomes a question, whether the absence of calcareous ingredients in the water used for drinking may not be a great cause of this immunity, and whether the presence of alkaline muriates and sulphates in this liquid, might not render its constant use beneficial in calculous complaints.

Pulmonary consumption does not exceed the average of other places; and Mr. Phillips, of the Westminster Hospital, at whose request I examined a number of children in each of the parishes of this island, arrives at the conclusion, that scrofulous swellings in children's necks, considered as indications of a strumous constitution, "are very nearly the average frequency of England and Wales, and not greater in Guernsey than in the Isle of Wight". An eminent physician, practising in the interior of England, is of opinion that patients, affected with strumous diseases of the joints and glands, derive much benefit from a residence in Guernsey. The presence of iodine may not be without its influence in these cases, considering the quantity of sea-weed on the coasts, its use as an extensive dressing for the soil, and its consumption as fuel by the cottagers.

Asthma, in all its varieties, is not only a very rare complaint among the inhabitants, but patients suffering under that form called "dry asthma" experience immediate relief on their arrival here; and young persons, after a residence of more or less duration, are often found to lose their predisposition to this disorder.

My own experience enables me to state, that persons from the northern and midland counties of England, with temporarily impaired health, but without any specific disease, derive the greatest benefit from removal to this island; and, after a sojourn of a year or two, without further medical interference than the regulation of habits and diet, are enabled to return to their homes, and resume their ordinary occupations, with health much improved. This may perhaps result from mere transition from a cold to a climate some degrees warmer and more equable; from an inland to a maritime situation. And it appears to be a good principle for adoption, in recommending what is called "change of air", to transfer delicate persons, residing inland, to the sea-coast, and *vice versâ*.

Without any desire to indulge in special pleading, or to advance any statement not strictly founded on fact, I cannot conclude without remarking on the benign influence of the climate on aged persons and young children; and on the advantages of this island as a transition stage, between the East and West Indies and England, for individuals whose health has suffered from long residence in tropical climates.

TABLE I.

Mean results of all particulars respecting the Climate of Guernsey, for nine years.

	JAN.	FEB.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPT.	OCT.	NOV.	DEC.	YEAR.
Mean Barometer corrected.....	29.827	29.852	29.827	29.725	29.849	29.887	29.898	29.889	29.936	29.777	29.836	29.939	29.853
.. Elastic force of vapour .....	.268	.266	.264	.302	.338	.409	.442	.448	.436	.359	.313	.275	.344
.. Range of atmospheric pressure	1.297	1.180	1.257	.950	.922	.776	.729	.718	.952	1.163	1.199	1.206	1.030
.. Adopted temperature.....	43.8	43.6	44.4	48.1	53.3	58.4	61.9	61.3	59.4	54.1	49.2	45.4	51.9
.. Dew point	40.3	39.2	39.6	43.2	46.0	52.0	54.6	54.0	49.4	44.3	40.9	40.9	46.6
.. Difference or degree of dryness	3.5	4.4	4.8	4.9	7.3	6.4	7.3	6.7	5.4	4.7	4.9	4.5	5.3
.. Degree of humidity .....	.885	.865	.863	.864	.804	.828	.814	.816	.857	.851	.854	.860	.846
.. Daily range of temperature	6.1	7.0	8.0	9.5	11.1	12.6	11.5	10.2	8.7	6.9	5.8	6.1	8.7
.. Amount of rain collected	3.977	2.914	2.809	2.977	2.044	1.883	2.123	2.152	2.119	5.131	3.879	3.496	35.524
.. Number of days of rain, hail, and snow	18.	15.	16.	16.	11.	9.	11.	12.	11.	19.	18.	17.	174.
.. Amount of cloud for 1850 and 1851	7.	5.5	5.3	5.9	4.7	3.4	4.9	4.8	3.8	6.9	6.7	6.1	5.4
Prevailing winds { N.E.....	6.	7.	9.	9.	13.	11.	7.	6.	15.	6.	6.	9.	104.
{ S.E.....	6.	4.	4.	3.	3.	2.	2.	1.	3.	3.	5.	5.	41.
{ S.W.....	9.	8.	8.	8.	6.	9.	11.	10.	5.	12.	9.	9.	104.
{ N.W.....	10.	9.	10.	10.	9.	8.	11.	14.	8.	10.	11.	8.	118.

TABLE II.

Mean Height of Barometer, corrected for Capacity, Capillarity, Temperature, and Diurnal Range; but not for Index Error, or Sea Level.

	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		MEAN OF THE DIFFERENCE.	
	R. Ob.	Gu.	R. Ob.	Gu.	R. Ob.	Gu.	R. Ob.	Gu.	R. Ob.	Gu.	R. Ob.	Gu.	R. Ob.	Gu.	R. Ob.	Gu.	R. Ob.	Gu.	R. Ob.	Gu.	R. Ob.	Gu.	R. Ob.	Gu.	R. Ob.	Gu.
1842	29.674	29.790	29.473	29.478	29.758	29.750	29.687	29.764	29.664	29.686	29.700	29.753	29.826	29.931	29.819	29.855	30.017	30.052	29.604	29.750	29.718	29.811	30.245	30.304	29.765	29.899
1843	.891	.981	.498	.618	.710	.787	.30.000	.30.057	.945	.947	.814	.907	.753	.880	.677	.810	29.981	29.914	.562	.646	.690	.724	29.685	29.843	.776	.848
1844	.704	.777	.840	.879	.705	.896	29.696	29.740	.712	.824	.775	.883	.769	.879	.729	.859	.801	.842	.847	.958	.575	.651	.658	.797	.742	.832
1845	.671	.781	.849	.958	.655	.770	.989	.646	.779	.837	.806	.925	.757	.872	.777	.866	.824	.866	.516	.638	.821	.849	.697	.808	.733	.817
1846	.735	.749	.790	.871	.882	.917	.953	.750	.764	.824	.808	.908	.924	.974	.876	.955	.825	.954	.803	.868	.905	.962	.778	.779	.807	.875
1847	.816	.836	.836	.857	.676	.505	.552	.589	.572	.926	.961	.642	.742	.836	.938	.879	.892	.846	.645	.763	.785	.928	.807	.864	.720	.792
1848	.771	.905	30.100	30.232	.915	30.007	.517	.582	.765	.868	.888	.922	.789	.900	.841	.930	.767	.800	.744	.802	.743	.881	.795	.889	.800	.891
1849	.854	.909	29.928	.018	30.039	.050	.594	.642	.714	.763	.886	.957	.789	.899	.787	.893	.930	.962	.681	.800	.728	.860	.914	.990	.814	.881
1850	.724	.891	.891	.937	.769	.895	.992	.708	.807	.890	.970	30.025	30.057	.725	.800	.781	.857	30.135	30.183	.821	.899	.857	30.183	.821	.899	.857
Means	29.751	29.827	29.754	29.852	29.763	29.827	29.672	29.725	29.795	29.849	29.806	29.887	29.795	29.898	29.792	29.889	29.878	29.936	29.681	29.777	29.749	29.836	29.939	29.775	29.775	29.853

TABLE III.

Mean Elastic Force of Vapour at the Royal Observatory, Greenwich, and at Guernsey.

Years.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPT.		OCTOBER.		NOVEMBER.		DECEMBER.		Mean Ann.	
	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.
1842																										
1843	·246	·272	·214	·235	·261	·261	·296	·302	·360	·349	·391	·394	·465	·431	·490	·472	·453	·469	·324	·337	·278	·304	·286	·312	·338	·345
1844	·234	·282	·201	·243	·238	·282	·308	·337	·329	·349	·397	·439	·441	·456	·406	·441	·422	·497	·329	·383	·289	·315	·190	·235	·315	·355
1845	·229	·272	·176	·236	·186	·244	·271	·313	·311	·326	·447	·426	·434	·428	·409	·441	·370	·424	·332	·372	·292	·337	·244	·291	·309	·343
1846	·272	·302	·264	·281	·250	·291	·287	·324	·349	·351	·458	·435	·466	·448	·481	·488	·442	·434	·340	·351	·295	·315	·182	·235	·341	·356
1847	·213	·234	·200	·231	·214	·252	·235	·282	·350	·351	·366	·376	·467	·450	·470	·431	·362	·358	·361	·385	·302	·337	·263	·291	·317	·331
1848	·182	·235	·257	·272	·252	·282	·278	·304	·356	·367	·394	·385	·437	·431	·411	·402	·385	·414	·336	·339	·254	·285	·266	·272	·317	·332
1849	·233	·269	·255	·281	·230	·245	·256	·234	·303	·308	·354	·380	·398	·393	·417	·410	·387	·443	·316	·322	·263	·322	·223	·272	·303	·323
1850	·182	·244	·257	·303	·204	·242	·281	·325	·298	·308	·375	·432	·446	·488	·414	·455	·352	·443	·276	·348	·283	·355	·231	·296	·300	·353
1851	·252	·309	·228	·315	·238	·277	·255	·299	·293	·342	·372	·431	·403	·459	·425	·496	·350	·433	·330	·396	·200	·253	·228	·269	·298	·356
Means...	·227	·268	·228	·266	·230	·264	·274	·302	·328	·338	·395	·409	·440	·442	·436	·448	·390	·436	·327	·359	·273	·313	·235	·275	·315	·344

TABLE IV.

Monthly Range of Barometer at Guernsey, deduced from the Highest and Lowest Readings.

Years.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPT.	OCTOBER.	NOV.	DEC.	MEAN. ANN.
1843	1·776	1·452	1·040	·716	·661	·878	·663	·906	·780	1·179	·969	·662	·975
1844	1·026	1·333	1·185	·832	·735	·569	·680	·685	·613	1·201	1·516	1·014	·949
1845	1·219	·938	1·063	1·065	·854	·935	·939	1·039	·857	1·140	1·034	1·390	1·038
1846	1·486	·809	1·310	1·221	1·258	·764	·776	·518	·970	1·346	1·034	1·947	1·120
1847	·978	·918	·985	·989	1·118	·906	·487	·681	·638	·864	1·361	1·367	·942
1848	1·868	1·658	1·439	·826	·958	·874	·943	·574	1·253	·787	1·320	·969	1·081
1849	1·260	1·367	1·588	·991	·892	·519	·771	·757	1·448	1·404	1·136	1·238	1·114
1850	1·273	1·080	·993	1·107	1·006	·771	·482	·763	·919	1·198	1·458	1·350	1·033
1851	1·284	1·068	1·716	·807	·815	·773	·821	·544	1·088	1·348	·969	·914	1·012
Means..	1·279	1·180	1·257	·950	·922	·776	·729	·713	·952	1·163	1·199	1·206	1·030

TABLE V.

Adopted Mean Temperature from Readings of Dry Bulb Thermometer at 9 A.M. and 3 P.M., and of Register Thermometer at 9 A.M.
Corrected for Diurnal Range from Mr. Glaisher's Tables.

Years.	JAN.		FEB.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUG.		SEPT.		OCT.		NOV.		DEC.		WINTER.		SPRING.		SUMMER.		AUTUMN.		ANNUAL.	
	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.	R. O.	GU.
1842	39.9	44.3	36.0	40.5	42.9	44.7	47.1	48.3	52.2	51.7	56.3	55.0	60.9	60.8	62.1	61.6	59.5	61.5	48.0	54.0	43.8	49.6	45.0	47.4	40.3	44.0	47.4	48.2	59.8	59.1	50.4	55.0	49.4	51.6
1843	39.9	44.3	36.0	40.5	42.9	44.7	47.1	48.3	52.2	51.7	56.3	55.0	60.9	60.8	62.1	61.6	59.5	61.5	48.0	54.0	43.8	49.6	45.0	47.4	40.3	44.0	47.4	48.2	59.8	59.1	50.4	55.0	49.4	51.6
1844	39.1	45.8	35.2	41.9	41.5	45.4	51.7	51.8	52.9	52.9	60.7	58.9	61.4	60.8	57.7	60.0	56.9	60.2	49.5	54.4	44.0	49.3	38.0	40.8	39.4	45.3	48.7	50.0	59.9	50.0	50.1	54.6	48.6	51.3
1845	38.3	43.1	32.7	39.9	35.2	39.2	46.3	46.9	49.4	51.6	60.7	59.1	59.8	60.7	57.3	59.4	53.6	57.5	50.2	54.3	45.8	50.8	41.7	46.8	34.7	41.2	43.7	45.9	59.1	50.5	49.7	54.2	47.6	50.7
1846	43.7	48.6	43.9	47.0	43.3	46.6	47.1	43.8	54.6	54.8	63.3	63.2	64.5	63.1	63.2	63.1	60.1	62.2	50.5	56.1	46.0	49.6	32.9	41.7	43.1	46.8	48.3	50.1	64.3	63.1	52.2	55.5	51.3	53.4
1847	35.1	42.1	35.4	41.1	41.0	43.4	45.3	46.6	56.4	54.6	58.0	57.0	63.4	63.5	62.1	61.7	54.3	52.2	52.9	56.1	46.9	51.4	42.8	47.2	31.5	41.6	47.6	48.2	61.8	60.7	51.4	55.2	49.6	51.9
1848	34.6	40.7	43.4	45.8	43.8	48.0	47.6	43.2	59.7	57.7	58.5	56.7	61.5	60.9	58.5	59.8	55.8	59.3	51.6	54.3	43.8	47.9	44.0	48.2	40.8	44.5	50.3	50.9	59.5	53.9	50.4	53.8	50.2	52.1
1849	40.1	45.7	43.2	46.9	42.5	45.5	43.2	46.1	54.0	53.5	57.9	57.9	62.8	62.8	58.8	58.9	51.1	54.4	44.1	49.6	39.1	46.5	42.4	46.9	46.6	48.3	61.0	61.0	51.8	54.3	49.9	52.3		
1850	33.7	39.5	44.7	46.1	39.9	43.4	48.5	47.9	51.3	51.3	60.8	58.6	62.2	61.2	60.2	60.6	56.4	58.4	47.0	50.5	45.5	49.8	40.6	46.2	39.2	43.4	46.8	47.5	61.1	60.1	50.0	52.9	49.4	51.1
1851	42.9	46.7	40.1	43.6	42.6	45.5	44.7	47.3	50.9	51.5	53.9	53.6	60.1	63.0	62.3	62.8	56.3	53.8	52.6	51.3	37.9	44.5	40.4	44.9	41.2	45.9	49.1	48.1	60.4	62.1	49.2	52.5	48.2	51.9
Means	38.6	43.8	39.4	43.6	41.4	44.4	46.8	48.1	53.5	53.3	59.7	58.4	62.0	61.9	60.7	61.3	56.9	59.4	50.4	54.1	44.2	49.2	39.8	45.4	39.5	44.2	47.8	48.6	62.3	60.6	51.9	54.3	49.4	51.9

Note.—The Winter Quarter commences from the previous December.

TABLE VI.

Mean Daily Range of Temperature at the Royal Observatory Greenwich and at Guernsey.

Years.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPT.		OCTOBER.		NOVEMBER.		DECEMBER.		MEAN ANN.						
	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.					
1842	7.9	5.9	7.5	7.0	12.4	6.9	15.4	9.0	14.7	9.0	15.2	13.8	15.6	11.5	16.4	11.0	17.4	9.3	12.8	8.3	10.2	7.1	6.6	8.2	6.0	4.9	12.7	8.7			
1843	8.7	5.6	10.5	9.1	12.1	8.7	21.0	11.8	18.6	12.3	19.9	13.4	16.2	12.2	15.4	11.6	15.3	8.0	12.4	7.2	7.4	5.4	5.4	5.7	13.6	9.3	5.7	13.6	9.3		
1844	6.4	6.4	8.7	6.3	11.1	7.9	16.8	9.7	14.2	11.6	18.2	12.8	14.9	9.9	14.8	10.7	15.6	8.2	13.3	6.0	10.9	5.8	9.9	6.9	12.9	8.6	5.8	12.9	8.6		
1845	7.7	5.3	8.3	7.4	12.7	9.0	13.1	9.5	16.6	11.3	22.5	12.1	17.5	11.9	15.5	9.7	18.0	8.0	10.4	7.5	8.0	5.5	10.3	5.6	13.4	8.6	6.7	9.7	5.6	16.1	9.1
1846	8.8	5.3	11.6	7.1	16.0	7.9	18.3	9.3	21.2	12.5	19.4	13.4	23.3	13.5	21.0	10.7	18.7	10.8	14.0	6.7	11.4	6.7	9.7	5.6	16.1	9.1	6.7	9.7	5.6	16.1	9.1
1847	8.3	6.4	10.7	6.8	14.3	7.9	16.7	8.9	30.5	13.6	17.7	10.9	22.5	11.1	18.5	9.3	20.9	9.5	16.5	7.5	15.7	5.8	12.7	7.8	18.7	8.8	5.8	12.7	7.8	18.7	8.8
1848	8.3	6.4	10.7	6.8	14.3	7.9	16.7	8.9	30.5	13.6	17.7	10.9	22.5	11.1	18.5	9.3	20.9	9.5	16.5	7.5	15.7	5.8	12.7	7.8	18.7	8.8	5.8	12.7	7.8	18.7	8.8
1849	10.7	8.0	12.9	7.6	13.8	9.1	16.0	10.3	16.3	10.9	17.1	13.2	22.6	12.9	20.2	11.2	17.5	7.4	15.1	6.0	11.7	5.8	9.1	6.5	15.2	9.1	5.8	9.1	6.5	15.2	9.1
1850	8.5	6.6	11.6	5.9	16.5	8.1	16.0	8.5	18.9	10.1	26.0	12.0	20.0	9.6	18.6	8.2	17.1	9.0	14.2	5.7	11.4	4.4	8.7	5.4	15.6	8.0	4.4	8.7	5.4	15.6	8.0
1851	10.0	5.2	13.2	6.2	12.1	6.5	16.2	8.4	19.6	8.8	22.1	11.5	20.1	10.6	20.0	10.0	20.6	8.2	13.0	6.5	11.9	6.0	8.0	7.2	15.6	8.0	6.0	8.0	7.2	15.6	8.0
Means...	8.6	6.1	10.6	7.0	13.4	8.0	16.6	9.5	19.0	11.1	19.8	12.6	19.2	11.5	16.8	10.2	18.0	8.7	13.5	6.9	10.9	5.8	9.9	6.1	14.8	8.7	5.8	9.9	6.1	14.8	8.7

TABLE VII.

Mean Dew Point at the Royal Observatory, Greenwich, and at Guernsey.

Years.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPT.		OCTOBER.		NOVEMBER.		DECEMBER.		ANNUAL.	
	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.
1842	37.3	40.8	33.4	36.6	38.9	39.6	42.6	43.8	48.8	48.0	51.2	51.6	56.3	54.2	57.8	56.9	54.9	56.7	44.7	47.0	40.9	44.0	42.0	44.8	45.7	47.0
1843	36.1	41.8	31.8	37.6	36.6	41.8	44.2	47.0	46.1	48.0	51.6	54.7	54.7	55.9	52.3	54.9	53.2	58.4	46.0	50.7	41.9	45.0	30.6	36.6	43.7	48.7
1844	35.9	40.8	28.5	36.2	30.0	37.9	40.6	44.9	44.6	46.0	55.2	53.9	54.4	54.1	52.6	54.9	49.7	53.7	46.5	49.9	42.8	47.0	37.7	42.8	43.2	46.8
1845	40.8	43.8	30.9	41.7	38.3	42.8	45.8	48.0	48.2	56.0	56.0	54.5	56.5	55.3	57.5	57.9	54.9	55.2	47.2	48.2	43.1	45.0	29.4	36.6	46.2	48.0
1846	33.4	36.5	31.7	35.5	33.9	38.6	36.7	41.8	48.2	48.2	49.4	50.2	56.4	55.5	56.1	54.2	49.7	48.8	49.0	50.9	43.9	47.0	40.0	42.8	44.0	45.8
1847	31.7	36.6	38.8	40.7	38.5	41.8	41.4	44.0	48.6	49.5	51.6	50.9	54.6	54.2	52.8	52.2	50.9	53.5	47.4	47.0	38.8	39.5	40.1	40.6	44.6	45.9
1848	36.4	40.4	38.9	41.1	36.1	37.0	39.1	35.1	43.9	39.3	48.4	48.5	51.1	50.4	53.3	50.2	51.1	53.6	45.1	51.8	39.8	45.2	35.1	40.5	43.2	44.4
1849	29.5	37.6	39.2	43.1	32.7	36.6	41.7	44.4	43.4	42.1	50.1	52.3	55.8	56.8	53.1	53.9	47.7	53.6	41.2	47.8	42.0	48.0	38.3	43.0	42.9	46.6
1850	38.9	44.4	35.8	40.3	37.0	40.5	39.7	42.3	42.4	44.9	50.3	51.7	52.2	55.5	53.8	56.7	48.2	52.9	46.4	51.5	32.2	38.3	35.7	40.3	42.7	46.5
1851																										
Means	35.6	40.3	35.3	39.2	35.8	39.6	40.9	43.2	46.0	46.0	51.5	52.0	54.7	54.6	54.4	54.6	51.1	54.0	45.9	49.4	40.6	44.3	36.5	40.0	44.0	46.6

TABLE VIII.

Difference between Mean Dew Point and adopted Air Temperature, at the Royal Observatory, Greenwich, and at Guernsey.

Years.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPT.		OCTOBER.		NOVEMBER.		DECEMBER.		ANNUAL.
	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	
1842	2.6	3.5	2.6	3.9	4.0	5.1	4.5	4.5	3.4	3.7	5.1	3.4	4.6	6.6	4.3	4.7	4.6	4.8	3.3	7.0	2.9	5.6	1.9	3.5	2.5
1843	3.0	4.0	3.4	4.3	4.9	3.6	7.5	4.8	6.8	4.9	9.1	4.2	6.7	4.9	5.4	5.1	3.7	1.8	3.5	3.7	2.1	4.3	3.0	4.2	3.6
1844	2.4	2.3	4.2	3.7	5.2	1.3	5.7	2.0	4.8	5.6	5.5	5.2	5.4	5.9	4.7	4.5	3.9	3.8	3.7	4.4	3.0	3.8	4.0	4.4	4.9
1845	2.9	2.8	4.0	5.3	4.9	3.8	4.8	3.1	6.6	6.6	9.3	8.7	8.0	7.8	5.7	5.2	5.2	7.0	3.3	6.7	2.9	4.6	3.5	5.1	5.1
1846	1.6	5.6	4.4	5.6	7.5	4.8	8.6	4.8	8.2	6.4	8.6	6.8	9.0	8.0	6.0	7.5	4.6	9.4	3.9	5.2	3.0	4.4	2.8	4.4	5.7
1847	2.9	4.1	4.6	5.1	5.3	4.2	6.2	5.2	11.1	8.2	6.9	5.2	6.9	6.7	5.7	7.3	4.9	5.8	4.2	7.3	5.0	8.4	3.7	7.6	5.6
1848	3.7	5.3	4.3	5.8	6.4	8.5	10.1	11.0	10.1	14.2	9.5	10.4	11.0	11.1	9.6	12.6	7.7	5.3	6.0	2.6	4.3	4.4	4.0	4.0	7.2
1849	4.2	1.9	5.6	3.0	7.8	6.8	6.8	3.5	7.9	9.2	10.7	6.3	6.4	4.4	7.1	6.7	8.7	7.8	5.8	2.7	4.5	1.8	2.3	3.2	7.9
1850	4.0	2.3	4.3	3.3	5.6	5.5	5.0	5.0	8.5	6.6	8.6	6.9	7.9	9.5	8.5	6.1	8.7	5.9	6.2	2.8	5.7	6.2	4.7	4.6	6.6
1851																									5.4
Means	3.0	3.5	4.1	4.4	5.9	4.8	6.6	4.9	7.5	7.4	8.1	6.3	7.3	7.2	6.3	6.7	5.8	5.4	4.4	4.8	3.6	4.8	3.3	4.4	5.5

TABLE IX.
Mean Degree of Humidity at the Royal Observatory, Greenwich, and at Guernsey.

Years.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPT.		OCTOBER.		NOVEMBER.		DECEMBER.		ANNUAL.	
	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.	R.Ob.	Gu.
1842																										
1843	918	863	916	859	808	858	862	865	892	873	845	888	856	797	866	803	857	863	893	788	907	813	935	867	887	844
1844	902	864	891	797	845	864	777	845	793	844	742	867	802	843	840	843	877	917	889	865	931	842	898	859	849	854
1845	923	927	867	892	852	958	823	933	852	816	843	842	839	821	858	843	876	867	882	843	893	871	871	866	865	873
1846	901	899	873	835	848	866	848	898	802	793	763	753	787	775	843	843	853	798	892	793	906	842	908	859	852	830
1847	910	827	838	828	841	859	748	864	781	793	765	796	747	753	851	797	843	708	873	844	901	871	904	866	833	817
1848	837	859	864	834	839	864	794	813	664	751	768	844	762	797	797	796	795	819	853	767	848	808	873	794	808	812
1849	843	860	863	885	801	817	864	693	703	695	715	728	711	736	772	726	772	888	815	956	860	879	903	884	802	812
1850	897	930	830	931	770	810	795	901	765	808	702	883	804	917	788	853	772	924	820	894	857	938	920	874	810	888
1851	859	935	875	919	842	876	822	882	762	870	738	851	768	887	755	843	747	855	810	914	819	820	855	877	804	877
Means	887	885	868	865	834	863	815	864	767	804	764	828	786	814	819	816	821	857	858	851	880	854	896	860	834	846

TABLE X. ANALYTICAL TABLE.

Years.	Mean height of Barometer.	M. elast. force of Vapour.	Mean range of Barometer.	Mean adopted Temp.	Mean Dew Point.	Mean deg. of Dryness.	Mean deg. of Humid.	M. daily range of Temp.	Amount of Rain.	Days of Rn. Hail & Sleet.	Days of Temp. below 75°.	Days of Temp. amount of Cloud.	Days of Prevailing Wind.			
													N.E.	S.E.	S.W.	N.W.
1843	29.829	345	975	51.6	47.0	4.6	844	8.7	37.705	191	3.	9.	92	55	104	114
1844	843	355	949	51.8	48.7	3.1	854	9.3	27.647	157	5.	10.	132	30	98	107
1845	832	343	1.038	50.7	46.8	3.9	873	8.6	33.329	160	8.	16.	99	38	108	120
1846	817	356	1.120	53.4	48.0	5.4	830	8.6	42.567	181	7.	0.	110	32	104	119
1847	875	331	942	51.9	45.8	6.1	817	9.1	29.222	163	2.	5.	92	58	88	127
1848	792	332	1.081	52.1	45.9	6.2	812	8.8	48.015	213	1.	6.	101	30	122	116
1849	891	323	1.114	52.3	44.4	7.9	812	9.1	36.393	168	6.	2.	108	38	90	127
1850	898	353	1.033	51.1	46.6	4.5	888	8.0	35.536	175	4.	2.	103	40	110	112
1851	899	356	1.012	51.9	46.5	4.4	877	8.0	29.319	176	0.	0.	111	33	107	114
Means	29.853	344	1.030	51.9	46.6	5.4	846	8.7	35.524	174	4.	5.5	104	41	104	118

The signs + — = relate to the average.

TABLE XI.

Amount of Rain collected in Pluviometer, 47 feet above the ground.

Years.	JAN.	FEB.	MARCH.	APRIL.	MAY.	JUNE.	Annual.
							Guernsey.
1843	3.278	3.105	1.272	4.763	4.379	3.359	37.7
1844	4.131	5.111	4.733	.484	.345	.455	27.6
1845	3.606	2.462	1.336	1.954	1.466	1.718	33.3
1846	6.494	2.095	3.856	3.905	3.220	2.037	42.5
1847	2.576	2.843	1.522	1.672	2.745	1.402	29.2
1848	3.120	5.362	4.545	4.075	.901	4.867	48.0
1849	4.160	1.703	1.259	3.707	2.356	1.138	36.3
1850	2.992	2.660	.900	4.366	1.598	1.198	35.5
1851	5.439	.884	5.859	1.869	1.387	.775	29.3
Mean..	3.977	2.914	2.809	2.977	2.044	1.883	35.5

Years.	JULY.	AUG.	SEPT.	OCT.	NOV.	DEC.	Annual.
							Greenwich.
1843	.815	3.576	.622	6.145	5.077	1.314	24.5
1844	1.090	1.332	1.354	3.759	4.052	.801	25.0
1845	3.989	1.668	4.964	2.018	4.408	3.740	22.3
1846	2.190	2.223	2.439	6.940	3.551	3.617	25.3
1847	1.753	1.264	1.674	3.732	2.967	5.062	17.6
1848	3.829	3.643	1.963	8.597	2.491	4.622	30.1
1849	2.469	.470	2.216	5.593	4.049	7.273	23.7
1850	1.493	4.104	3.207	4.637	4.523	3.858	19.6
1851	1.485	1.091	.635	4.759	3.957	1.179	20.2
Mean..	2.123	2.152	2.119	5.131	3.879	3.496	23.1

LIST OF PLANTS which bloom in Guernsey in the open air during the winter months.

DECEMBER. Anemones: single, red, blue, and white; Asters, of various kinds; Chamomile, two varieties; single and double Daisy; common Borage; Garden Wallflower; common Marigold; Corn Marigold; Ox-eye Daisy; Chimonanthus Fragrans, or winter flower; Wild Carrot; common Fumitory; Bloody Crane's Bill; Christmas Rose; Red-flowered Lychnis; Cat's Ear; Sheep's Scabious; Honesty; Mercury; Fig Marigold; Sweet-scented Colt's Foot; Smooth-leaved Sow Thistle; common Primrose; Cowslip; Polyanthus; Auricula; Purple Milk-wort; Candy Tuft; Clove Carnation; Shepherd's Purse; Heart's Ease; Russian Violet; double Groundsel; several varieties of Oxalis; Heaths; Bregmansia Sanguinea; Bregmansia Lutea; Ceanothus Azureus; Cassia Prostrata; Clematis Cærulea; Crepis Virens; Daphne Purpurea; Escallonia Discolor; Fuchsias, of various kinds; Genistas, ditto; Gnidia Simplex; Lavandula; Gallardia Bicolor; Jasminum Undiflorum; Leontus Leonurus; Lupinus Cruickshankia; Nerine Humilis; Oenothera; Salvia Grahamii; Penstemon Albidum; Santolina; Sollya Heterophylla; Tasconia Mollissima; Torilis Anthriscus; Aloysia Cetrodora; Magnolia Grandiflora. About Christmas, broccoli are abundant in the market.

JANUARY. Crocus Japonica; Arnopogon; Papaver Orientale; Narcissus Odorus (yellow and white); Fuchsia Coccinea; Scarlet Star Anemones; Reseda Odorata (Mignonette); Cheiranthus (double yellow); Cheiranthus Maritimus; Vinca Major; Arabis Alpina; Crocus (common yellow); Laurustinus; Nemophylla Alba; Muscari Racemosum; Erysimum Perowskianum; Linum (white and yellow); Camelia Japonica (variegated, red, and white); Helleborus Niger; Cheiranthus Fragrans Grandiflorus; Daphne Mezereon; Daphne Dauphinia; Daphne (the white highly-scented variety); Erica Arborea Alba; Erica (dwarf pink or herbacea); Genista Hybrida; Double Red Brompton Stock; Russian Violets;

Hepatica Rosea; Common Dark Polyanthus; Snowdrops; Iberis Ciliata; Anemone Hortensis, and a variety introduced from the Pyrenees; Chrysanthemum (small double yellow); Double White and Double Lilac Primroses; Cynoglossum Omphalodes.

GROWING AGAINST WALLS. Common China Rose; Common Red Rose; Veronica Speciosa; Veronica Cindeiana; Clyanthus Punicea; Pyrus Japonica; Coronilla Glauca; Fuchsia Serratifolia; Scarlet Geranium (Smith's Emperor); Red Salvia.

FEBRUARY. Camelia Japonica (single red, double red, variegated, white, and other varieties); Erica (dwarf pink, Mediterranean, and Arborea Alba); Petus Porum; Coronilla Glauca; Berberis Æquifolia; Laurustinus (shining leaved and common); Ulex (double yellow furze); Polygala Latifolia; Rosmarinus Officinalis; Magnolia Conspicua; the Almond Tree; Standard Plum Trees; Hepatica (pink and blue); White and lilac Madagascar Primula (Rosea and Alba); Violets (Russian, Neapolitan, and French tree); Narcissus (bicolor and odorus); Pseudo-Narcissus; Hyacinthus (common single, of various colours); Scarlet Star Anemones; Polyanthus, of various colours; Auricula, ditto; Iberis Perennis; Crocus, of various colours; Arabis Alpina; Nemophylla Insignis Alba; Vinca, major and minor; Cheiranthus (double yellow); Cheiranthus Maritimus; Muscari Racemosum; Arnopogon; Mesembryanthemum (bicolor and a pale pink, and small purple variety); Genista Hybrida; Rhododendron Arborea Hybrida.

AGAINST WALLS. Veronica Speciosa; Common China Rose; Peach, Nectarine, and Apricot trees.

ON INFLAMMATION OF THE VAGINA.

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[Read before the Medical Society of London.]

THE large tract of mucous membrane, extending from the orifice of the vagina to the orifice of the uterus, is obnoxious to various diseases; and unquestionably the affection most frequently met with in practice is inflammation. The inflammation may be partial, or extend over the whole surface; it may be acute or chronic; it may be limited to the vagina, properly so called, or it may extend upwards into the membrane lining the uterus, and finally involve the proper structure of this organ; or extend downwards, and implicate the mucous membrane of the vulva; it may also extend beyond the substance of the membrane, attack the cellular tissue which surrounds it, and cause the formation of abscesses in this situation; or the erectile tissue which partially surrounds the vagina, may, together with the large and numerous veins, become implicated in the morbid action, and constitute a most distressing affection. Each of these variations in the character and extent of the inflammation causes a difference in the symptoms, and requires a modification in the treatment; but it is only inflammation of the vagina, considered in a general manner, and without reference to particular modifications, that can be considered within the limits of this paper.

SYMPTOMS. When consulted by a patient labouring under an affection of this kind, it is rare, except in severe or acute cases, that our attention is directed to the seat of the disease. She frequently com-

plaints of a dull heavy pain across the forehead, general weakness, pain in the back, in the stomach, and in the calves of the legs, or of some condition of the general health, which has been induced by the long continuance of the local disease. It may be that a vaginal discharge is stated to exist, and that the menstrual periods occur every two or three weeks, and continue longer than usual; but the distinctive symptoms are, as a rule, only admitted by the patient when questioned on the subject. These are—a fulness, and throbbing in the vagina; pains shooting up the canal into the abdomen; tenderness on sitting, especially on a soft seat; great pain on the passing of the fæces; a sensation of bearing down, or as if something would pass from the vagina; with frequent desire to pass the urine, and occasional retention of that fluid. But it may be well to consider these symptoms rather more in detail.

The pains which are present are seated in the sacral region, extending round the hips into the perinæum, down the posterior and outside of the thighs, and in the calves of the legs. They are, in fact, in the course of the nerves derived from the sacral plexus, from which the vaginal nerves are likewise derived, and hence, no doubt, the reason why pains present in affections of the vagina are reflected along the nerves furnished by the sacral plexus. In respect to diagnosis, it is important to notice the situation of these pains, for, as I have elsewhere shown, affections of the uterus itself cause pains in the lumbar and dorsal regions, and in the nerves derived from these parts, and not in the sacral portion of the spinal column. The pain at the lower part of the stomach, or rather, deep in the hypogastric region, is likewise strongly indicative of a vaginal affection, inasmuch as pains reflected from the uterus are seated, not in the hypogastric region, but in the sides of the abdomen, above the inguinal region. The local fulness and throbbing, together with tenderness on pressure, either on sitting on a soft seat, or during the passage of the fæces, are obviously referrible to the local disease; but the bearing down, which is also present, and which has been usually attributed to an affection of the uterus, is deserving of note. From my own observations, I do not hesitate to refer this symptom to disease of the vagina, the mucous membrane of which becomes thickened and swollen, and hence causes the feeling of a substance being present, having a tendency to pass away. However, it no doubt frequently exists when the uterus is the seat of disease; but in these cases the vagina also is implicated; and even when no affection of the vagina is present, it will be found that the symptom is occasioned by the pressure of the descending uterus upon this canal, and therefore is still derived from the vaginal complication. The frequent desire to pass the urine, and the occasional retention of this fluid, appears to be the consequence of irritation, reflected from the vaginal nerves to those distributed to the bladder. It does not appear probable that it arises from the extension of the inflammation to this viscus, for that would involve a greater degree of morbid action than is usually present; nor can it be caused by any unhealthy state of the urine, for this fluid, when tested, is not found, even in most marked cases, to be altered from the healthy condition.

In inflammation of the vagina, some discharge is usually present, whether this be purulent, muco-purulent, or white mucous; but it may be entirely absent. Frequently in acute inflammation there is no dis-

charge; and often, when an acute attack is engrafted upon chronic inflammation, the vaginal discharge, previously present, ceases; and when repeated a few times, will cause the patient to remark, that "she is always easier when the discharge comes freely away." It will not, I think, admit of a doubt, that the state of the membrane which gives rise to these various conditions of the discharge must vary, according to the presence or absence, or the character of the discharge; yet, for the present, I must pass over this point of the inquiry. It is, however, worthy of note, that in affections attended with vaginal discharge, or, as it is termed, leucorrhœa, this discharge is the product of the vagina, and not of the uterus, as has been hastily supposed.

The ancient division of leucorrhœa, into vaginal and uterine, appears to have been made when the diagnosis between these two diseases was as yet very imperfect, and is now retained by some authors, on the plea that purulent fluid sometimes is seen to escape from the orifice of the uterus during an examination with the speculum. That purulent fluid and white of egg mucus does escape from the cavity of the uterus is certain, but *practically* we must bear in mind, that the amount is too small to escape externally, and constitute what patients call "a discharge". Another important practical condition attending inflammations of the vagina, is the disturbance which they induce in the menstrual function. Soon after the appearance of the inflammation, the catamenia are observed to appear a few days within the proper period of their recurrence, to continue longer than usual, and to be greater in quantity, whilst the purulent or muco-purulent discharge again occurs in the interval. These alterations gradually increase in degree, until the menstrual discharge appears every fortnight, or oftener, continues seven or eight days, and consists of a copious flow of bright florid fluid, often mixed with coagula of blood. In some cases, I have known a red discharge, depending on inflammation of the vagina, to continue for six weeks without intermission, and to withstand the effect of various astringent remedies, until the inflammation was subdued by the free application of leeches. Nor was this discharge of trifling amount, for both from its quantity and the effect it produced on the constitution, it might strictly be termed menorrhagia.

A curious physiological question arises out of this clinical observation of the effect of vaginal inflammation upon the catamenial functions;—viz., by what influence is this effect produced? I must, however, leave the solution of this question to those who have accepted the imaginary theory of the influence of ovarian excitation upon this function. For myself, the phenomenon in question appears an insurmountable obstacle to this supposed influence. It might be said that this red discharge was not the appearance of the menstrual function, but only a flow which simulated it; but if such a line of argument were adopted, I am unable to perceive how it could be supported. The discharge is not a vicarious flow, varying in recurrence, in duration, or in amount, but appears regularly in respect of each of these characters, has gradually superseded the regular monthly periods, and presents no appreciable difference from the usual catamenial flow.

The constitutional states which are caused by these affections vary much according to the original constitution of the patient, the hygienic conditions in which she is placed, and the duration of the disease. In

severe cases, the continued pain which is endured night and day, the inability to find a resting place when in bed, and the frequent recurrence of increased pain at the catamenial periods, now recurring very frequently, quickly produce a state of debility and nervousness which, at times, becomes excessive. The constitutional derangement is further aggravated by the actual loss of blood, too great for the system to bear, and by disorder of the bowels; yet, as a rule, the appetite is not much impaired. It is also a curious observation, that in these affections pain across the forehead is almost invariably present.

On a local examination, the vagina presents the characters of a mucous membrane suffering from various conditions of inflammation. When examined with the finger, the orifice and the cavity of the vagina may be small, the membrane hot, and exceedingly tender, though neither swollen nor lubricated by any fluid, whilst the arteries are felt to beat beneath the finger with increased force. On other occasions, in addition to the heat and tenderness, the membrane is much swollen, lying in large smooth folds, or, is much corrugated. Frequently a portion of it projects, like a fringe surrounding the orifice, into the vulva, being acutely tender, and causing great difficulty in progression. In more chronic cases, the vagina becomes ample, and the membrane evidently thickened; it is tender, and covered with a copious secretion, and the increased pulsation of the arteries is still perceptible; on other occasions, the membrane is not only thickened, but coriaceous to the feel, communicating to the finger rather the impression of soft skin than that of mucous membrane. Viewed by the speculum, the membrane presents various shades of red, from an increase in the natural colour of the part to bright florid, or livid mahogany red; the colour may likewise be either uniform or mottled in various degrees. When it is thickened and coriaceous, the colour is even paler than natural, and has the appearance termed "mammillation". This mammillated condition of the vagina frequently ceases abruptly at the orifice of the uterus, and has been mistaken for the margin of an ulcer, supposed to occupy the "orifice of the uterus".

In regard to the existence of ulceration of the uterus, there can be no doubt that it is a rare, instead of a frequent disease, and that the term has been applied to various morbid conditions, which are essentially different from ulceration. But in this particular instance some excuse may be offered, inasmuch as it requires a somewhat careful examination of the subject, in order to appreciate the morbid alterations. That this is no imaginary case, may be illustrated by an example which occurred to me so recently as the 9th of March 1852.

CASE. A girl, aged 16, rather tall, with fair skin, of good conformation, and moderately stout, entered the London Fever Hospital, suffering from an acute disease in the head. After a few weeks, she died; and, being present at the *post-mortem* examination, I had an opportunity of examining the condition of the uterine organs. The body of the uterus was rather low in the pelvis, as viewed from above, inclined to the left side, swollen, rounded in appearance, and of a dull, rather deep red colour, which depended on the minute injection with blood of the vessels of the organ. The Fallopian tubes were similarly injected, but of a deeper red colour, especially at their fimbriated extremities; the pelvic veins were also much loaded with blood; the ovaries, about

the natural size, were pale, and strongly contrasted in colour with the injected tissues in the neighbourhood. To the feel, the body of the uterus was uniformly soft and elastic, and antiflexed near or at the junction of the cervix with the body. The orifice of the vagina was large, and obstructed by folds of thickened mucous membrane; whilst the cavity of this passage was enlarged, the mucous membrane thickened, coriaceous to the feel, lubricated with secretion, and lying in loose folds. The lips of the uterus were smooth, the orifice not notably altered from the healthy state, the neck somewhat enlarged, and the antifixion of the body, previously noticed, distinctly perceived. On the removal of the organs from the body, the thickened mammillated condition of the vaginal mucous membrane was recognised; and this ceased abruptly by a defined margin at the orifice of the uterus, within which the tissues appeared red and swollen. So peculiar were these appearances, that I was unable to say whether they were only due to inflammation, or whether some further morbid change had not taken place. And in spite of a previous opinion that there was as yet no case on record, which could be trusted, of ulceration occurring at the orifice of a virgin uterus, it appeared, at first sight, that this lesion existed in the present case. My friend Dr. Sankey, who, from his extensive experience at the Fever Hospital, is well versed in pathological appearances, was equally unable to solve the doubt; whilst Dr. Tweedie, who saw it for an instant, jokingly charged me with making the appearances with the scalpel. However, on opening the cavities of this organ, this appearance was seen to depend on a fringe of membrane, about one-sixteenth of an inch in depth, which bordered the defined margin of the mammillated vaginal mucous membrane; and beyond this the lining membrane of the cervix uteri was injected, but otherwise healthy. To test more accurately the presence or absence of excoriation, the edge of a clean scalpel, not previously used, was drawn over the surface of the small fringe of membrane, and an abundance of epithelium covering the part, as shown by the microscope, obtained. From the lining membrane of the neck of the uterus, the epithelium was more difficult to separate, in consequence of not being loosened by the previous inflammatory action; for it would appear that when inflammation is carried to a certain point, but short of that stage where this covering is shed, and excoriation produced, the epithelium is more readily detached by the edge of a scalpel, than in an otherwise healthy membrane. The facts of this case are very significant at the present time; for, had this girl been treated by the use of the speculum, (and I have since understood she had been,) the real disease—chronic inflammation and thickening of the vaginal mucous membrane—would have been overlooked, and the part—the orifice of the uterus—which was little changed from the healthy condition, considered the seat of an imaginary disease. It also shows that we cannot correctly estimate the character and extent of disease in the uterus, by looking at the orifice through the medium of the speculum. The parts described have been preserved; and although the appearances are much altered, by immersion in salt and water for upwards of a month, yet even in this state, the preparation may be subservient to correct some mistakes as to the pathological appearances in these diseases. I allude to the statement, that the distinctive characters of

ulceration quickly pass away after the examination of the body; or, that the presence of this lesion can only be determined, with certainty, by clinical examination of the living subject. As shown in this instance, the congestion of the blood-vessels, and the red colour indicative of inflammation, quickly pass away; but when any lesion of the tissues has taken place, this can be as distinctly recognised after the lapse of some time, as on the day of the first examination; for it so happened that a minute speck of superficial ulceration, one-twelfth of an inch in length, existed on one of the lips of the uterus, and this lesion is still visible. The mammillated condition of the vaginal mucous membrane, although much changed, also retains its distinctive characters; whilst the seat of the fringe of swollen membrane is marked by a narrow dark line.

TREATMENT. The ultimate object in the cultivation of the knowledge and diagnosis of diseases is, without doubt, that we may arrive at the means by which they are most easily and most certainly relieved. And in treating this part of the subject, I will consider inflammations of the vagina as they occur in the acute stage, in the chronic stage, and when thickening or ulceration of the tissues has been produced.

In the acute stage, when the membrane is swollen, intensely tender, with or without discharge, and the arteries of the part beat with a force and character which closely simulates the state of the vessels in a finger during the formation of a whitlow, the abstraction of blood appears clearly indicated. Except, however, in those plethoric habits where it is necessary to relieve the general tension of the system, general bleeding is rarely, if ever, required; but the local abstraction of blood, by leeches applied to the perinæum or vulva, is of great service. The vessels of the part, as well as the large plexus of the pelvic veins, are more effectually relieved by this, than by any other means; and the bleeding may be further encouraged by fomentations, or, what is better, by the use of bran poultices. The poultices, again, should be ample, larger than sufficient to cover the whole of the perinæum, and the hips should be surrounded by a blanket, folded in a triangular form, which is passed round the pelvis, and one end brought up between the thighs, after the manner of applying a baby's napkin. This admits of a local application of heat and moisture, by the frequent changing of the poultices, for a greater length of time, and more effectually, than by other means; whilst the blanket not only converts the application into a hip-bath, by retaining the heat and moisture around the hips, but prevents the bed becoming damp, and consequently admits of the whole being removed at any period. The administration of aperients is important, in order to remove any obstruction the loaded condition of the intestine might offer to the return of the blood; yet we ought not to forget that the bowels are frequently much loaded, are very obstinate to move, and that, when they are so, great pain is produced by the passage of the fæces, which for a time aggravates the disease, and often draws complaints from the patient that the remedies make her worse. It is, however, important to remove all obstruction, especially in the large intestines, and sometimes even an enema is required, the administration of which will likewise give much pain. The liquor potassæ, and the acetate of potash, are sometimes of much service; but their lengthened administration weakens the general health. Fre-

quently there are difficulties to be encountered, in severe cases, which experience alone, it appears, could have taught. The pain is so great in the sacral region, that the patient is unable to find a resting-place in bed, and seeks relief by sitting on a hard seat, with the body bent forwards, and the elbows resting on the knees. If during the night she endeavours to obtain a little repose, no sooner is she lost in sleep, than the mind wanders in some frightful dream, some movement of the body is made to respond to the imaginary incidents, and she is again awoke by the pain which these movements produce. Should the attack occur during the winter, the patient, unable to sleep or find a resting-place, seeks relief by sitting up in bed covered with shawls, cloaks, etc., when, after a time, the head becomes very painful and giddy, and she is again compelled to resume the recumbent posture, "shivering with cold". It is requisite to be acquainted with these circumstances, in order that the attention may not be drawn from the cause of the symptoms, and that we may steadily pursue the means to relieve the local inflammation; paying attention, at the same time, to the constitutional disturbance which is incurred. The use of narcotics generally affords temporary relief; and perhaps the combination of henbane and morphia quiets the system as well, and affects the head as little, as any other. Each case further requires some modification of the treatment, in order to suit the constitution of the patient, and the general condition of health in which she may have been, at the time of the attack. Further than washing the external parts with warm water, the vagina is too tender to admit of the employment of blisters. After a time, the acute symptoms pass away, the membrane secretes a muco-purulent or purulent discharge, the chronic stage of the affection is established, and we now have one of those diseases to which the name *leucorrhœa* has been applied.

In the chronic stage, it is not requisite to confine the patient to her bed, nor to prevent her attending to her household duties; yet long walks ought to be avoided. The diet may be more generous; and strict attention must be paid to the condition of the bowels, which usually become disordered, by reason of the patient delaying their action as long as possible, from a dread of the pain it creates. An aloetic digestive pill, taken before dinner, generally suffices to ensure their regular action; and when *anæmia* is present, one or two grains of the sulphate of iron is an excellent addition. It is in this stage that the balsam of *copaiba*, either in the form of a mixture or as drops, is of great service; as also the powdered cubebs, given twice or thrice a day, and combined or not with the carbonate of iron, according to the special indications of the case. It is now also, that the tincture of *cantharides* has been found by some to be so serviceable. During the flow of the menses, which recur at short intervals, with an increase in the quantity, these medicines must be intermitted, rest enjoined, and, if necessary, dilute sulphuric acid, gallic acid, etc., administered, in order to moderate any inordinate flow. At the menstrual periods, there is a tendency to an inter-current attack of acute inflammation springing up; and this may extend so far as to render it requisite to apply leeches to the vulva, and to use the bran poultices, before the profuse flow can be arrested. After a menstrual period of the usual duration, the application of a few leeches, and the employment of the poultices for an

hour or two, is beneficial, by reducing the fulness of the vessels, and relieving the increased inflammation which attends the recurrence of this function. But, as might be supposed, it is in this chronic stage of the inflammatory action, that vaginal lotions are of so much benefit. It cannot be necessary to particularise the various lotions which are useful, or the way in which these require to be modified, in order to suit the requirements of each individual case. It is sufficient to bear in mind that the milder forms ought to be first employed, as the acetate of lead, or even cold water, at the time of taking a hip-bath; while those of more stimulating qualities, as the sulphate or chloride of zinc, nitrate of silver, etc., are cautiously proceeded to. The necessity there is for the patient to lie on the back, with the hips raised, in order to use vaginal lotions efficiently, constitutes a great objection to them by many females, and in others, causes them to be used without this precaution, and consequently with little or no benefit. With proper attention of the female, it might be said that the speculum is never required in the treatment of this stage of these affections, and that lotions are always sufficient for their cure. But it is not always that patients will be so careful as to ensure the lotion passing to the upper part of the vagina, where the disease may become located; and in occasional cases of this kind, a strong solution of nitrate of silver, or the solid nitrate, lightly passed over the surface of the membrane, through the means of the speculum, will remove, as if by a charm, after two or three applications, a troublesome discharge, and wandering pains which had existed for months previously.

Chronic inflammation of the vagina is a frequent attendant on affections of the uterus itself, and, I am also obliged to say, has frequently been mistaken for disease of this organ. It is chiefly from this cause, that so many contradictory opinions have been given as to the value of lotions in these affections: for instance, in inflammation of the vagina, they will afford marked relief, and generally cure the disease; in inflammation of the vagina, attended with an affection of the uterus, they will be of much benefit by relieving one portion of the affection; but in a disease of the uterus itself, no good will be obtained from the employment of them. It is consonant with *a-priori* reasoning, to suppose that a local application, which only occasionally touches the uterus, and when it does touch, only washes the lips of the organ, could exert no beneficial influence on its diseases; and experience has fully shown this reasoning to be correct.

In respect to the treatment of that stage of these affections, wherein the tissues become thickened and altered, I have little to say. Here, all general medication, with the object of influencing the local disease, is apparently useless; yet as the general health has suffered, to a greater or less extent, from the lengthened continuance of the disease, and in various ways, remedies calculated to remove the constitutional derangement, present in each individual case, are not only of great benefit, but are essential to the cure. To reduce the thickening of the membrane itself, the stronger lotions, used with attention, are requisite, such as the chloride of zinc or of copper, the nitrate of silver, the tincture of iodine, etc. And the occasional application to the surface of the membrane, by the aid of the speculum, of these substances, in

stronger solution than they can be used as lotions, hastens the removal of the thickening of the tissues. Frequently the employment of one substance in strong solution, whilst using another as a vaginal lotion, is more beneficial than the employment of either of these substances alone.

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ON DISEASE OF THE INTERNAL EAR;

EXTENDING THROUGH THE MEDIUM OF THE AUDITORY NERVE, TO
THE MEDULLA OBLONGATA AND BASE OF THE BRAIN.

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It has been shewn by numerous observers, that diseases of the ear are not unfrequently the source of mischief to the brain or its membranes. In a paper published in the thirty-fourth volume of the *Medico-Chirurgical Transactions*, I have attempted to show that there are three ways whereby disease is propagated from the ear to the brain, namely,—

1. From the external meatus and mastoid cells to the lateral sinus and cerebellum.

2. From the tympanic cavity to the cerebrum.

3. From the labyrinth to the medulla oblongata and base of the brain.

In the present communication, I purpose treating of the third class of cases only.

It is very rare to find disease originating in the labyrinth, it being generally communicated to that cavity from the tympanum. One of the most common affections of the ear is catarrhal inflammation of the mucous membrane lining the tympanum, a disease which has hitherto been included under the term *otorrhœa*; this affection of the tympanum does not, however, frequently terminate in ulceration, and therefore it is a case of comparative rarity to find the attachments of the stapes to the fenestra ovalis destroyed, and this bone entirely disconnected or discharged from the ear. That the latter result does, however, sometimes occur, is shown by the discharge of the ossicle during life, and by the existence of some of the cases to which I am about to draw attention. The stapes being once removed, there is a communication between the tympanic cavity and that of the vestibule, and the disease of the tympanum is liable to extend inwards. When this is the case, the membranous labyrinth is destroyed by suppuration, and the auditory nerve becomes involved in the disease. Sometimes the substance of the nerve is wholly destroyed along its whole length, at others it is simply inflamed and thickened; but whichever of these changes occurs, the disease from the labyrinth is prolonged to the base

of the brain, where the most serious lesions ensue. Thus in some cases pus is effused between the arachnoid and pia mater, over the whole surface of the base of the brain, surrounding the nerves in their cranial course; the substance of the pons Varolii or medulla oblongata may be destroyed by suppuration; or an abscess may form between the arachnoid and pia mater. In some cases, the disease extends a considerable distance down the medulla spinalis.

The fenestra ovalis being left open by the removal of the stapes is not, however, the only medium whereby disease from the tympanum extends to the labyrinth. If the inner wall of the tympanum be examined, it will be found that the outer arm of the horizontal semicircular canal frequently projects into the cavity of the tympanum, where it forms a slight protuberance, which is covered by mucous membrane. In cases of ulceration of the tympanic mucous membrane, this small portion of bone is sometimes implicated. In one of the following cases, a carious orifice was found in it, which, although not larger than the size of the head of a small pin, was sufficient to allow the disease to extend to the labyrinth, and thence to the auditory nerve and base of the brain.

In the paper before alluded to, I have shown that the formidable symptoms in cases of disease of the brain, originating in the ear, generally terminate in death with great rapidity. In the four cases which follow, the only symptom previous to the appearance of those with which life terminated, was the presence of a discharge from the ear. I feel that it is impossible to lay too much stress upon the importance of paying serious attention to all cases in which there exists a discharge from the ear. I have already pointed out the several diseases of which this discharge is symptomatic;¹ and there is scarcely one of them that is not liable to terminate in disease of the bone, and ultimately of the brain, if allowed to proceed unchecked by remedial measures.

CASE I. Disease in the Tympanic Cavity extending through a Carious Orifice in one of the Semicircular Canals to the Labyrinth, and thence by the Auditory and Facial Nerves to the Base of the Brain.

On March the 28th of the present year, I was called in by Mr. Such, of Dalby Terrace, City Road, at the request of Mr. Coulson, who had also seen the patient, to see a German gentleman, aged 26, the history of whose case I found to be as follows. He was of a strong and robust constitution, and had generally enjoyed the best health; indeed, even when I saw him, he had the appearance of a stout healthy man. Between four and five years previously, he complained of occasional pain in the right ear, usually followed by discharge, which discharge by degrees became constant. Three weeks before I saw him, he suffered from a severe attack of pain in the head, which disappeared upon the occurrence of an increased quantity of discharge. Nothing particular occurred until ten days previous to my visit, except a sleepless state at night, when he was suddenly seized with a violent pain in the head, which was not diminished by any of the remedial measures that were resorted to; and this pain by degrees extended to the back of the neck, and as low even as the sixth dorsal vertebra.

¹ On the Nature and Treatment of those Diseases of the Ear which have hitherto been designated Otorrhœa and Otitis. Transactions of the Provincial Medical and Surgical Association, vol. xviii, 1851.

About the same time, there was paralysis of the right facial nerve. For several days, there had been a considerable shivering fit about two o'clock P.M. On the evening of the 28th, at which time I saw him, he was suffering from great pain at the back of the neck; he was very restless, especially at times, but he talked quite sensibly; the right facial nerve was paralysed; he squinted; the pulse was 85. The external meatus was nearly filled by a polypus; the discharge was very fetid, and abundant. A large blister was ordered to the nape of the neck; the ear to be frequently syringed with hot water; and, as he was very sensitive to the action of mercury, a quarter of a grain of grey powder, with three grains of extract of henbane, were administered every two hours.

March 29th, 9 P.M. The mercury has already caused great tenderness of the gums. The symptoms have materially increased; the pain at the back of the head this morning was very great; the squinting continues, and he sees double. At three o'clock to-day he became insensible; he can, however, be roused by a loud voice, when he speaks rationally for a minute or two; he then relapses into a state of incoherency. Pulse the same as yesterday; respiration oppressed and slow; face and head congested and blue; discharge from the ear abundant and fetid. Leeches ordered to be applied below the ear.

March 30th. Slight relief followed the application of the leeches, but he soon became rapidly worse. The right side of the body was paralysed, the breathing became stertorous, the face livid; he gradually became insensible, and died at 8 P.M.

AUTOPSY, twelve hours after death. The cerebrum was healthy, excepting that there was a considerable quantity of chocolate-coloured fluid in the lateral ventricles. The cerebellum was also healthy. The arachnoid surface of the dura mater, covering the superior and mastoid parts of the petrous bone, was in a healthy state; but, upon removing it from the surface of the bone, it was, over two small portions of both parts, softer than natural, and these portions covered orifices in the diseased bone. It was, however, quite manifest that the disease had not extended from these parts of the ear to the cerebrum or cerebellum. Upon removing the brain, there was evidence of the existence of very extensive disease at its base. Purulent matter was deposited between the arachnoid and pia mater, from the roots of the olfactory bulbs anteriorly, to the medulla oblongata posteriorly. In some parts, this pus was of a dark colour, and in others, as over the pons Varolii, the arachnoid membrane was ulcerated. The seat of the principal disease was the right side of the pons Varolii, the substance of which was ulcerated to the depth of a line to a line and a half, over a surface as large as a sixpence. All the nerves were surrounded by pus, and the substance of the facial and auditory nerves of the right side was so soft as to be scarcely distinguished from purulent matter. Upon examining the petrous bone, the dura mater around the meatus auditorius internus was observed to be softened, and detached from the bone, which was quite denuded. The portions of the auditory and facial nerves in the meatus internus were in a state of suppuration. The whole of the petrous bone was removed for careful dissection, so as to afford facilities for tracing the disease from the ear to the brain. The external meatus contained two polypi, one of which, as large as a small pea, was at-

tached by a broad base to the posterior wall of the meatus, about its middle; a smaller one, about the size of a grape-seed, was also attached to the posterior wall of the meatus, nearer to the membrana tympani. Upon separating the membranous meatus from the bone, an orifice between two and three lines in diameter was observed in the latter, so that a communication existed between it and the mastoid cells. There was, however, no orifice in the membrane; so that the discharge from the ear did not come from the mastoid cells, but, as will be seen, from the meatus only. The membrana tympani was perfect; but it was quite white, and much thicker than natural. The cavity of the tympanum contained a considerable quantity of fetid pus; its lining fibromucous membrane was destroyed by ulceration at several points. In this cavity there were also two portions of carious bone, one of which projected towards the cavity of the cerebrum, and was in contact with the outer surface of the dura mater; the other looked towards the cavity of the cerebellum, and was also in contact with the dura mater; the latter membrane being at both points, as stated above, thick and soft. The ossicles were present, and the stapes adhered with its usual degree of firmness to the margin of the fenestra ovalis. Upon laying open the cavity of the vestibule, it was found to be full of dark-coloured pus, having a fetid odour; the semicircular canals were also full of matter, having similar characters; and the walls of the superior canal were carious at two or three points. This purulent matter extended through the posterior wall to the meatus auditorius internus. The point now to be decided was, how the disease from the tympanum had extended to the labyrinth. In the other three instances of this disease which I had heard of, the stapes had been removed by ulceration, and the fenestra ovalis had been the medium of communication between the cavities. In the present case, however, the only aperture whereby the disease in the tympanum could have extended to the labyrinth, was a small carious orifice, not larger than a small pin's head, which existed between the posterior part of the tympanic cavity and the outer crus of the horizontal semicircular canal; this part of the canal forming, as is well known to anatomists, a slight bulging in the wall of the tympanic cavity.

Throughout these observations, it has been assumed that the disease originated in the tympanic cavity, and extended to the vestibule and meatus. The grounds for my holding this opinion are various. *In the first place*, it is so rare for disease to commence in the vestibule, that I have never met with an instance; had it originated there, it is most probable that it would have ended fatally ere it reached the tympanum. *In the second place*, the tympanic cavity is more frequently the seat of disease than any other part of the ear; and the presence of the portions of necrosed bone which were not detached, indicate long-standing disease. It is certainly possible for the affection to have begun in the external meatus; but in opposition to this opinion is the general result in such cases, namely, that the disease extends to the mastoid cells and cerebellum, and there would also most probably have been a larger amount of disorganisation in the meatus itself.

CASE II. Ulceration of the Mucous Membrane of the Tympanum, extending by Removal of the Stapes to the Labyrinth, and thence to the Brain, through the medium of the Auditory Nerve.

For the particulars of the following case, and for the opportunity of making a careful inspection of the diseased parts, I am indebted to my friend Mr. Avery.

James Warner Smith, aged 17, sailor, was admitted into the Charing Cross Hospital on the 14th of January, 1846. The history given was, that at five years of age he had an attack of measles, after which he was troubled by a considerable amount of discharge from the left ear, and from which he was never afterwards entirely free for any length of time; occasionally it was very trifling, and it was not offensive. With this exception he had enjoyed good health. Three months ago, when off the Cape of Good Hope, he was up aloft during a gale, and lost his cap; considerable pain in the left ear followed this accident, the quantity of the discharge increased, and it has not since then disappeared. The pain was not constant, appearing at intervals of a week or two; sometimes a little blood was discharged from it. When he came on shore, what he called a "fresh-water damp" gave him a fresh cold, the pain in the head and ear becoming more violent. Thinking the malady arose from the ear, he consulted Mr. Curtis, who treated the matter lightly, although he then suffered from a considerable amount of pain and fever. He was ordered injections, drops, ointments, etc., but not getting better, he came to the Charing Cross Hospital, and was admitted under Dr. Chowne, on the 14th January. At the time of his admission, he complained of constant pain in the left ear, and the left side of the head as far as the vertex. There was also pain on the right side, but not so violent as on the left. The muscles of the right side of the face were constantly twitching and drawing his features to that side. Some intolerance of light was also observed. From the left ear there was an abundant offensive secretion. There was no tenderness over the left mastoid process.

Jan. 16. Has had a violent paroxysm of pain in the night, but he is better this morning, and the twitching has subsided, excepting in the right eyelid. Calomel and opium were administered. *Jan. 22.* He appears much better, slept well; pain has abated. *Jan. 24.* The pain has returned as violent as ever. *Jan. 27.* Was delirious during the whole of the day. *Jan. 29.* Delirium continues; intense pain in both sides of the head; discharge from the ear abundant; the head drawn backwards. *30th.* The delirium has left him, but he is exceedingly drowsy, and is roused with difficulty. The movements of the limbs and their sensation unaffected; the pupils acted properly. *Feb. 1.* The drowsiness has vanished; has had no delirium, and has passed a good night; still complains of considerable pain in the ear and over the eyes. He remained in much the same state until the 5th, when he gradually sank, without coma or any cerebral symptoms of any marked character. The retraction of his head continued to the last; he was quite sensible before he died.

AUTOPSY, thirty-six hours after death. Upon removing the dura mater, the surface of the arachnoid was observed to be remarkably dry; the vessels of the pia mater were more than usually injected. On the convex surface of the hemispheres there were two or three small yellow patches beneath the arachnoid. The lateral ventricles each contained at least three ounces of clear limpid fluid, and in the posterior corner of the right, and in the inferior one of the left, were

two patches of bright yellow lymph as large as half-a-crown, covered by a thick, creamy, purulent fluid. The third ventricle contained a dark clot of blood, as large as a small walnut, which could be traced into the fourth ventricle, where there was also a small coagulum; the commissura mollis was broken down. Surrounding the lower part of the commissure of the optic nerves, and covering the crura cerebri, pons Varolii, medulla oblongata, and upper part of the medulla spinalis, was a layer of pure yellow lymph and pus, nearly half an inch thick; it embraced the nerves at the base of the brain as far as their passage through their general foramina. The parts in direct contact with this layer were very soft. Under the pia mater, where the right anterior lobe rests on the orbital plate of the frontal bone, there was a patch of effused blood, the size of a shilling. The dura mater covering each petrous bone was healthy; the exterior of the bone did not present any appearance of disease. Upon examining the cavity of the ear, the membrana tympani was found to have been destroyed by ulceration; all the ossicles had disappeared. The tympanic cavity was full of the most offensive purulent matter, and its lining membrane was ulcerated. The fenestra ovalis was open, and in the cavity of the vestibule matter was found, having similar characters to that in the tympanum. The whole of the natural membranous labyrinth had been destroyed. The auditory nerve was tumefied, and of a dark livid colour; it had evidently been the medium whereby the disease in the ear had been communicated to the base of the brain.

CASE III. Disease in the Tympanic Cavity extending to the Labyrinth, and thence to the Medulla Oblongata, and Base of the Brain.

The following case occurred in the practice of Mr. Streeter, and was by him laid before the Westminster Medical Society, on the 13th of January 1844.

The patient was a lady, aged 42, who had been deaf in the right ear since the age of seven, but from what cause was not known. Two or three months ago, she became affected with a severe headache, for which a blister behind the affected organ was applied. Nothing serious, however, was thought of the matter until the 17th of December previous, when the pain increased very much in severity, being of a maddening character, and almost producing delirium. The portio dura was paralysed, as was evident on the patient's being requested to put out her tongue. There was a severe pain also down the spine, which was attributed to a fall which she received on getting out of bed. The pulse did not warrant active depletion, but two or three leeches were applied behind the ear, a large poultice was placed over the face, the ear was gently syringed with warm water, and saline medicines were ordered. On the 18th, she had had some sleep in the night, but complained of an almost intolerable pain in her back. The catamenia now appeared, and the cause of the pain remained obscure. She was quite sensible, the pupils acted, but the cornea on the affected side had commenced to ulcerate. The opposite ear had become a little deaf, and there was a slight discharge from the right ear. It was also thought that a ball could be observed in the membrana tympani; calomel and opium were administered. The following day (19th) she had slept better, and remained somewhat improved until five or six o'clock in the evening of the 21st, when she was suddenly seized with coma, in

which state she remained until two the following morning, when she died.

AUTOPSY. On examining the brain, there were found slight sub-arachnoid effusion and vascularity of the surface of the brain. There was also some increase of vascularity in its interior. There was no effusion in the ventricles.

An abscess was found in the tympanum and labyrinth, and there was a counter-abscess, about the size of a large pea, in the condensed arachnoid and pia mater tissues, occupying the fossa where the facial and auditory nerves proceed from the junction of the medulla oblongata with the pons Varolii and cerebellum. There was inflammation and thickening from effusion of pleura of the arachnoid and pia mater, investing the right side of the upper portion of the medulla oblongata and adjoining part of the right lobe of the cerebellum, to about the extent of a square inch, but there was no softening nor apparent lesion of the proper cerebral tissue beneath.

The exact condition of the tympanic cavity and labyrinth is not detailed in the above notes by Mr. Streeter, but there can be no doubt that the disease, most probably ulceration of the mucous membrane, had extended to the vestibule either through the fenestra rotunda or ovalis, or by means of an orifice occurring in the osseous external semicircular canal. The state of the portis dura and portis mollis nerves is not indicated, but judging from the records of other cases of a similar character to the present, these nerves must have been either partially or wholly destroyed, or had undergone some morbid change, and they doubtless were the medium through which the disease had advanced from the ear to the base of the brain.

CASE IV. This case is taken from M. Itard's work.¹ A man, aged 22, complained of toothache, followed by febrile symptoms, five weeks previous to his death. On the twelfth day of the attack, discharge took place from the right ear, and remained until he died.

AUTOPSY. Over the convex surface of the brain, and in its substance, were a number of small purulent deposits; the cerebellum was also similarly affected, but in a less degree. The auditory and facial nerves were in a state of suppuration, and almost wholly destroyed; pus was found in the internal auditory meatus, the vestibule, cochlea, semicircular canals, and tympanic cavity.

¹ *Traité des Maladies de l'Oreille.* 1821. Tome i, p. 254, Obs. 22.

ON THE NATURE AND TREATMENT OF CANCER.

By ALEXANDER URE, Esq., Surgeon to St. Mary's Hospital.

(Read at the Harveian Society, April 15, 1852.)

THE elements of every cancerous growth are the cells of cancer, intermixed with the structure of any of the tissues which compose the body. The result of this is the substitution of a new, for the natural tissue of the part.

The cancer cell is remarkable for its multiform character. No one shape is to be considered as certainly and alone characteristic; on the contrary, it will be found that the cancer cell affects a variety of forms. That these different forms are only modifications, is insisted upon by M. Lebert, who, in his *Practical Treatise on Cancerous Maladies, and on Curable Affections which may be confounded with Cancer*, published last year, says: "The type of the cancer cell is a small regular sphere, with an elliptical nucleus, occupying about half of the interior of the cell, and containing one or more nucleoli; but that type is not often distinct. The cellular envelope takes the ovoid, triangular, heart, and caudate shape. . . . It would be useless to recount here all the shapes assumed by the cancer cell; it is sufficient to remark, that in no other cell do we observe this *multiformity* of the cell wall to the same degree."

The nucleus, according to this author, is the constant element of the cancer cell. I believe, however, that many cancer cells will be met with, in which no nucleus is to be discerned.

Cancer is to be regarded as a specific malady. It is to be met with in almost every tissue of the human frame. It assails alike skin, mucous membrane, muscles, fibrous tissue, and nerve, and is even deposited in the medullary cavities of bones. It has a marked tendency to spread in all directions, and to return again when removed, either in the place it originally occupied, or in some other part of the body. It eventually contaminates, so to speak, the whole animal economy, and thus induces decay and dissolution.

Cancerous tumours may be arranged for the convenience of study into two groups; first, the scirrhus or hard cancer; second, the medullary, encephaloid, or soft cancer. These seem to differ from each other merely in the presence of a greater or less proportion of fibrous tissue; many fibres and few cells constituting scirrhus, few fibres and many cells forming medullary. Scirrhus, as is well observed by Mr. Brinton,¹ cannot be accurately distinguished from fibrous tumours by the unassisted eye; in reality, scirrhus is a fibrous tumour with one element superadded, and that element is the cells of cancer. The arrangement of these cells is peculiar; they may either be intermixed, or else accumulated in cysts.

In medullary cancer, the cells are in great abundance; and, in consequence, the proportionate absence of fibrous tissue renders the whole tumour much softer, approaching in consistency the brain of a child.

¹ Medical Examiner. Philadelphia: Nov. 1851, p. 718.

Scirrhus and medullary cancer may exist together; or rather scirrhus has a natural tendency to merge into medullary, by the more rapid development of cells; so that we often find both of these forms of cancer united in a single tumour.

The other forms of cancer which have been described by pathologists, such as the colloid, the melanoid, the hæmatoid, and the like, are to be reckoned as merely varieties, with another element super-added. Thus, the colloid or endogenous form consists of cancer cells imbedded in a gelatiniform substance of the nature of pyine; the melanoid is composed of cancer cells associated with brownish-black pigment-corpuscles; the hæmatoid, of cancer cells admixed with blood.

I omit here the consideration of the so-called epithelial cancer, as it is my intention to make it the subject of future research. Although included by some writers among cancers, it presents many points of dissimilarity. It contains none of the characteristic cells belonging to cancer, in the strict sense of the term. It consists essentially of epithelium scales, for the most part flattened, sometimes cylindrical. Its morbid influence seems to be arrested at the adjoining lymphatic glands; when extirpated, analogous growths are never met with subsequently in important internal organs, in the future progress of the disease.

Cancerous tumours are supplied by arteries, veins, and capillary vessels. The vascular distribution varies in different tumours, nay, even in different portions of the same tumour. According to M. Lebert, neither nerves nor lymphatics have as yet been detected in tumours of this description. But, although the eye of the anatomist may have failed to discern their presence, it seems highly probable that the nerves distributed to the part in which the cancer is situate, may have become so modified by the morbid infiltration as to elude discovery, and be yet the medium of those agonising sensations, so frequently experienced by patients afflicted with the disease.

Examined chemically, cancer is found to consist of albuminoid and fibrinous substance, of different kinds of fat and of caseine, but the albuminoid constituent predominates. The "cancer juice", the liquid which permeates the cancerous structure, and holds in suspension the cancer cells, is usually, according to M. Lebert, of a pale yellow hue, inclining to white. It is sometimes red, from admixture with blood; brown or black, from the presence of melanotic pigment; thick, and of a dingy yellow tint, when containing much fat. It forms an emulsion with water, rendering the latter uniformly turbid.

The origin of cancer is veiled in obscurity. The presumption is, that the blastema is elaborated from the blood, because, wherever capillary vessels exist, there cancer may spring up. The blood thus becomes the vehicle of the cancerous predisposition, but is not transformed directly into cancer in the vessels. At least we have no evidence of the fact. When, for instance, cancer has been met with in the veins, it has either penetrated the coats of the vessel from without inwards, or else a germinal particle has been deposited on the internal membrane, and there matured under favourable conditions. It would appear that, for a certain period, the constitution is able to withstand the development of cancer, until from some cause the vital energy is lowered; and then the slightest external injury is sufficient to quicken

the nascent germ, and rouse it into activity. The effect may be likened to that of catalytic agency, to which so many remarkable phenomena in organic chemistry have been ascribed.

The first minute drop of cancerous exudation is distinctly cancerous, and reveals the peculiar cells. In proportion as it increases, it receives vessels which proceed from those in the vicinity; it is thus for some time nourished and augmented by fresh exudation of blastema, and not, as has been supposed, by cellular growth, the result of a special generation of cells. The production of cells is to be viewed merely as the effect, and not the cause, of a perversion of nutrition, of an aberration of the formative process.

M. Maisonneuve, in a late number of the *Gazette des Hôpitaux*, has suggested the idea, that the cancerous molecules, too large to pass off by the natural emunctories, are stopped in the capillaries, where they become the nucleus for new products. This hypothesis is, however, without proof.

Two stages may be generally recognised in the progress of cancer. The first is that of evolution; the second that of disintegration. In the first we have the primal exudation, followed by the growth and vascularity of the resulting adventitious structure. This may continue until death. The second stage is characterised by the different changes to be met with in the morbid growth. Among these may be included softening and ulceration, extravasation of blood, circumscribed inflammation with the formation of abscess, and even of gangrene. The internal degeneration of the cancer cells by infiltration of a granular fatty substance, pointed out by M. Lebert, and which is denoted by a meshy appearance, may, when very extensive, determine atrophy of the cancer. With the advance of the atrophy, the whole morbid mass may waste away, and leave an irregular cicatrised surface in its stead. This may convey the impression that a cure is being accomplished. Generally speaking, however, the cure is only limited to the spot, and but of brief duration. A curious phenomenon occasionally met with during the gradual disintegration of a cancer, is the production of a bony substance, which is separated in small amorphous marly masses. This may be referred to the law of attraction of similar parts. I submitted to microscopic examination a section of one of these nodules, but failed to discover any bony corpuscles. The section had a striated appearance, the result probably of calcification of the fibrous texture.

It is believed by many intelligent surgeons that a tumour of an innocent nature may, in the course of time, degenerate into cancer. Such is not the fact. A fatty or fibrous tumour may undoubtedly become the receptacle of cancer, in common with any other organised texture of the body, but not independently of a preexistent cancerous tendency in the system.

It has been above stated that cancer manifests a proneness to spread. The fibrous structures, the arteries, and the cartilages, are those which resist the longest its destructive influence. The cellular tissue, the lymphatic vessels, and the veins, afford ready means of diffusing the disease. The mode of extension is first to the adjunct textures; then to neighbouring organs; and next, by the medium of the lymphatic vessels, to the glands in the vicinity.

As the disease advances, the constitution becomes impaired, and death is the inevitable result.

It may be laid down as an indisputable fact, that, in the present state of science, cancer is quite incurable. But is the surgeon, on this account, to abandon the patient entirely to his fate? Certainly not; he may palliate where he cannot cure.

The plan chiefly resorted to for the removal of external cancers is the operation by the knife. This expedient ought only to be adopted where the surgeon has a well-grounded hope of abating the suffering without shortening the life of the patient; otherwise it is unjustifiable. Many condemn the operation, without taking into account the relief which it frequently affords. It is no uncommon thing to see patients from whom a cancer has been opportunely extirpated, recover a healthful complexion, regain their strength and spirits, and cease to suffer for several years. Even in less successful cases, that is, where life has not been apparently prolonged, the patients have been exempted from a painful, a loathsome, and a lingering death. Moreover, if there be good reason to believe, that the local malady, in proportion as it gains ground, increases the tendency to infection of the system, it is evident that a patient who has undergone the operation is in nearly the same condition as an individual simply predisposed, and without any manifest cancerous development.

The surgeon, therefore, may conscientiously operate, when there is a clear prospect of removing the whole of the adventitious structure; when the disease is established, and making distinct progress, and the pain very distressing. Scirrhus tumours are less prone to relapse at an early period than those of the encephaloid type. The operation is contra-indicated when well-marked signs of cancerous cachexia are present, and when other tumours are perceived at some distance from the original seat of the malady. If the breast be the organ affected, an operation is objectionable, when the tumour is adherent to the skin or to the walls of the chest, when the nipple is retracted, and when the lymphatic glands, more especially those near the clavicle, are implicated in the disease.

One would be less disposed to operate on a person stricken in years, than on one at a less advanced period of life; and, although it is in general advisable not to delay the operation, still an exception may be made in the case where the patient suffers scarcely any inconvenience, where the progress of the tumour is very slow, and there is no obvious tendency to spread by radiation.

In performing the operation, the fundamental rule is to remove every portion of the diseased structure, and to ensure this, the whole extent of the wound ought to be carefully searched, in order that none be left. Whenever practicable, it is important that the edges of the wound be brought into direct apposition, and thus retained, so as to procure immediate union. After the wound is healed, the application of collodion is useful in promoting the contraction and prompt consolidation of the cicatrix. It likewise shields the tender cuticle from the air, and from risk of abrasion. With this view the collodion is to be pencilled over the surface, twice or thrice a week regularly, for some time. I was led to adopt the practice from observing that patients very often feel uneasiness in the cicatrix on change of weather, and also that

secondary cancerous deposits are frequently met with in that situation. Hence the propriety of obviating every source of local uneasiness or pain in individuals of a cancerous habit. In the two following cases, the collodion was employed as above directed.

CASE. A stout married woman, who had never been a mother, thirty-four years of age, applied to me in the month of September 1849, on account of a large, irregular, and hard swelling, occupying the upper portion of the left mamma, which was very fully developed. There was, besides, some swelling, with tenderness on pressure, along the anterior border of the axilla. The tumour was first perceived about four and a half years previously, of the bigness of a pea, in the axillary side of the mamma. About a year and a half from the above date, after a blow received on the breast, the tumour began to enlarge, and become the seat of pain. The pain was like that of the stab of a knife, was experienced mostly on change of weather, and created a feeling of nausea after taking food. It was felt chiefly in the bone of the shoulder, and underneath the mammary gland. During the six months previous to my seeing this patient, the tumour had been rapidly increasing in size. By the application of leeches, and of a cooling lotion, the swelling and uneasiness near the axilla subsided. On the 14th of September 1849, I removed the tumour in the ordinary way by two elliptical incisions. The tumour was bulky, and, weighed along with the fat which surrounded it, upwards of eight ounces. It was in some parts softened; it had the unequivocal characters of carcinoma.

As soon as cicatrisation was completed, the collodion was steadily applied for several months. Up to the present time, she has no apparent return of the malady.

CASE. A widow, thirty-six years of age, of a robust frame and healthful look, the mother of one child, consulted me, in the autumn of 1849, respecting a swelling seated in the right breast. The swelling had a soft but uneven feel; was about as large as a pullet's egg, quite moveable, and situate in the outer and upper portion of the mamma. She suffered from pain referred to the nipple, and also darting down the right arm as far as the forefinger. Latterly she had been annoyed with puffy swelling of the right hand, and a sense of aching when she did any needlework; she was thus prevented from pursuing her calling, that of a dressmaker. She first perceived the swelling eighteen months previously; six months afterwards the pain supervened. The catamenia had continued uniformly regular. Various means were tried for the purpose of dispersing the tumour, but without advantage. On the 12th October 1849, I removed the tumour, as in the preceding case, by two elliptical incisions. The tumour, which was examined both by Mr. Quekett and myself, was distinctly scirrhus. The cicatrix was treated with collodion. I have seen this patient during the present week. She is exempt from any manifestation of cancerous disease, and labours busily in her vocation.

It is satisfactory to find that both of these patients have now survived the operation for upwards of two years and a half, without any apparent return of cancerous disease. One has already outlived the average term assigned to individuals afflicted with scirrhus, namely, four years; while the other has exceeded that term by a period of

three years; a circumstance the more remarkable in the case last referred to, for the condition of the patient was by no means favourable, inasmuch as the tumour was partially softened, and would have ere long caused ulceration of the superincumbent integument, as was indeed indicated by a dusky red spot on the skin.

As a general rule, excision is the most eligible mode of extirpating cancerous tumours. The operation, moreover, since the introduction of chloroform, is without pain. Nevertheless, the surgeon will occasionally meet with cases in which the employment of the knife is inadmissible, or where, if admissible, the patient refuses to submit to it. Under such circumstances, resort may be had to the escharotic plan of treatment, provided the disease be circumscribed. One of the most efficient escharotics is the chloride of zinc. Its application, however, is attended with much pain. Several years ago, in some researches on cancer, published in the *Medical Gazette*, I pointed attention to the fact, that chloride of zinc has a remarkable affinity for albumen, and, in virtue of this affinity, sought to explain its action when placed in contact with cancerous growths, which are composed in a great measure of that proximate element. Chloride of zinc is indeed a most energetic caustic, and requires to be employed with discretion. Full instructions respecting the manner of applying it are given in an article of mine on "Caustics and Cauterisation", which I published in the *Cyclopædia of Surgery*. It is especially useful in the instance of cancerous sores, accompanied with bleeding fungosities and fetid ichorous discharge. Ulcers of this nature, "the mere despair of surgery", have thus been brought to cicatrise. Although the cure be but fleeting, still a few months of calm and apparent health are no little boon to a patient so circumstanced.

I have likewise employed quick-lime as a caustic with good effect. It keeps up a kind of smouldering heat in the part. It is slower in its action, but productive of much less pain than the choride of zinc.

CASE. A widow, fifty-eight years of age, of spare make and of sallow complexion, was sent to me by Dr. Spurgin, of Guildford Street, in April 1845. About a year previously she noticed a swelling, of the size of a hazel-nut, in the right breast, rather to the outer side, of a stony hardness, unattended with pain. After the lapse of six months, the incumbent skin became red and painful, and eventually gave way, the result being a discharge of ichorous fluid. The pain was of a shooting character. At the time of my seeing her, there was an ulcer, with an indurated base and narrow red circular border, evidently carcinomatous. It was about an inch in diameter. She complained of weakness; was free from cough. She had borne three children, and suckled them with both breasts indiscriminately. The catamenia had ceased in her fiftieth year. She lost an aunt from what was called "bleeding cancer". I applied the chloride of zinc paste; thereby eradicated the morbid growth, and procured a firm and healthy cicatrix. She was after this enabled to pursue her ordinary avocations.

CASE. A few years ago, I was requested by Dr. Moore, of Savile Row, to see a lady who was suffering from secondary cancer. This lady was fifty-two years of age, of a full habit of body, and endowed with great mental and physical energy. Her left breast had been removed

for scirrhus, by Mr. Green, three and a half years previously. In the cicatrix were two flattened tubercles, at some distance apart, slightly elevated above the adjunct skin, and having minute vessels ramifying over their surface. The larger of the two was about an inch in diameter. These tubercles were the seat of pain; and their presence was naturally a source of great anxiety to the patient and her friends. It was therefore determined that they should be removed by means of the chloride of zinc, which was done accordingly. This lady lived nearly four years afterwards in apparent comfort, mixing freely in society, from which she had previously withdrawn herself. She ultimately died of a sudden and rapid attack of disease of the chest, characterised, I was informed, by extreme difficulty of breathing, and great quickness of pulse.

CASE. A married woman, sixty years of age, from the neighbourhood of Louth, in Lincolnshire, applied to me, several years since, respecting a tumour of the left breast. The patient had borne eleven children, and suckled them almost entirely with the right breast, because the left nipple had receded. Her complexion was ruddy, and her general health good. The tumour was about the size of a small apple, hard and nodulated, and the seat of stinging pain. The superincumbent skin was puckered in the centre, at which point the tumour was adherent. The disease was of two years' standing. She had, however, suffered more or less uneasiness in this breast for some years, and had been repeatedly subject to milk-abscess.

The patient was urgent to be relieved of the tumour by any means but the knife. I was reluctant to apply the chloride of zinc, on account of the amount of pain which would necessarily ensue, before a morbid growth of such extent could be eradicated. I therefore used quick-lime, and thus succeeded in removing the principal portion of the tumour. The quick-lime determined a progressive separation of the diseased mass in the form of moist, glutinous shreds, of a dark brown colour. The abstraction of the remainder was accomplished by a single application of the chloride of zinc paste. In six weeks, the resulting sore was cicatrised. She shortly afterwards returned to her native place, without any perceptible trace of induration in the breast.

After a lapse of six years, to my surprise, for I did not expect to find her then alive, she walked into my room, having come to town for the purpose of consulting me, on account of a recurrence of the cancer. An indurated patch, the size of a half-crown, the surface of which had a fine granular appearance, just as if it had been sprinkled with sand, occupied the cicatrix. It was the seat of occasional stabbing pain. She complained besides of pain and numbness in the left arm. The lymphatic glands, above the clavicle, were enlarged and indurated. She had a sallow unhealthy look; her appetite, however, continued good, and she had slept well till lately. It was not many months prior to the above date, that she had experienced any inconvenience, or noticed any change in the condition of the breast.

It was now manifest that the disease had relapsed in a form which was not to be benefited by surgical treatment. Yet, it is consolatory to think, that this patient obtained a respite from a painful malady for

nearly six years. What became of her subsequently, I know not. There can, however, be very little doubt that she died from the effects of cancerous cachexia.

With regard to general treatment, I would briefly observe, that the leading indication is to support the strength of the patient. M. Andral ascertained that one of the most constant effects of cancer, when it has lasted for some time, is a decrease of the globules of the blood.¹ Now this is precisely what occurs in exhausting diseases. For this reason, all measures of depletion ought to be avoided, or used with the utmost reserve, should any inflammatory ailment supervene. Benefit has been derived occasionally from the administration of cod-liver oil, alternated with chalybeates, should there be any tendency to anæmia.

ON THE HEALTH OF LONDON DURING THE SIX MONTHS TERMINATING MARCH 27TH, 1852.

By JOHN WEBSTER, M.D., F.R.S., Fellow of the Royal College of Physicians, Consulting Physician to St. George and St. James's Dispensary, etc.

THE total number of deaths registered in London throughout the six months terminating at the end of last March, were nearly parallel in amount with those which took place during the two corresponding quarters of last year; showing that the late season has scarcely proved more than usually insalubrious. This general inference respecting the public health is fully borne out by comparing the number of deaths met with in all the metropolitan districts during both periods. Thus, in the six months ending March 27th, 1852, the gross mortality amounted to 28,445; whereas, in the parallel quarters of 1850 and 1851, the number was 27,954, being an augmentation of 491 fatal cases, or about one and a half per cent in favour of the former, as compared with the more recent half-year. However, this increased rate of mortality was entirely confined to the months of October, November, and December, 1851; whilst a diminution of 1,929 deaths occurred during the quarter terminating last March; the comparative numbers being 14,481 in 1852, against 15,410 in the first quarter of last year. It further merits special notice, that the above decrease of deaths appeared most remarkable during the last month of the period now quoted; the total mortality recorded during March 1851 was 5,478, contradistinguished to 4,787 throughout the similar four weeks of the current year; thus giving 691 fewer deaths. The actual result

¹ *Essai d'hématologie pathologique.* Paris: 1843.

was, however, altogether different during the last three months of 1851, contrasted with the same portion of 1850, when 12,544 deaths were reported, while 13,964 occurred during the more recent period, making an excess of 1,420, or of 11·32 per cent.

The important fact now mentioned, of fewer deaths having been recorded during last March, than in the corresponding month of 1851, may be in part explained by the remarkable features characterising the two periods. Throughout the whole of March 1852, the weather continued exceedingly dry; indeed, only a very slight shower of rain fell on the first of that month. The barometer, especially during the first three weeks, remained uniformly high; its lowest range being about $29\frac{1}{2}$ inches, whilst the highest reached above $30\frac{1}{2}$. The temperature, although often low, was never very variable; the difference betwixt day and night having been very rarely more than from 18 to 25 degrees; and occasionally only 15, or even so little as 10 degrees. The sky appeared frequently cloudy or overcast; and the electrical condition of the atmosphere was positive during 20 days out of 28; whereas, during the remaining week, nothing was shown in regard to electricity.

It appears interesting to recall to mind the characters of the atmospheric phenomena presented in the parallel month of the previous year, when the mortality ranged much higher. During March 1851, a great deal of rain fell, the amount being upwards of three and a half inches throughout the entire month, in which, it appears, eighteen days were registered as rainy. The barometric pressure was considerably lower, having rarely exceeded $29\frac{1}{2}$ inches, and even falling sometimes under 29 inches. Positive electricity only prevailed during 7 days; whilst, throughout the remaining three weeks, it became either negative, or nothing whatever was shown; which happened during 16 out of the 28 days. I have been induced to mention the above particulars regarding the physical states of the atmosphere, feeling confident that they materially contributed to lessen the recent mortality, notwithstanding an unusual prevalence of east and northerly winds, accompanied by a low temperature, which otherwise always prove insalubrious, especially to old and debilitated constitutions.

DISEASES WHICH HAVE EXHIBITED A DIMINISHED RATE OF MORTALITY.

	DEATHS.			DEATHS.	
	Sept. 1850	Sept. 1851		Sept. 1850	Sept. 1851
	to	to		to	to
	Mar. 1851.	Mar. 1852.		Mar. 1851.	Mar. 1852.
Hooping Cough	1205	825	Apoplexy	646	626
Measles	627	355	Delirium Tremens....	68	62
Dentition.....	314	277	Mortification	96	87
Bronchitis	2534	2472	Rheumatism	154	150
Pneumonia	2190	1961	Remittent Fever.....	55	49
Asthma	599	482	Hepatitis.....	99	79
Pleurisy	102	89	Violent Deaths	833	786
Pericarditis.....	86	65			

PLEURISY was much less fatal during the first quarter of the year 1852 than in that of 1851; 71 deaths have occurred during the last-named period, and 39 during the recent parallel quarter.

DISEASES WHICH HAVE EXHIBITED AN INCREASED RATE OF MORTALITY.

	DEATHS.			DEATHS.	
	Sept. 1850	Sept. 1851		Sept. 1850	Sept. 1851
	to	to		to	to
	Mar. 1851.	Mar. 1852.		Mar. 1851.	Mar. 1852.
Variola	466	728	Hydrocephalus	716	821
Scarlatina	635	969	Anasarca	414	445
Erysipelas	168	236	Ascites	58	64
Phthisis	3247	3608	Ovarian Dropsy	17	26
Typhus Fever.....	1140	1297	Puerperal Diseases ..	229	252
Diarrhœa	539	626	Ague.....	8	13
Tabes Mesenterica....	358	394	Paralysis	560	593
Peritonitis	102	133	Carbuncle	6	26
Hernia.....	69	75	Want of breast-milk ..	107	141
Jaundice	76	82	Violent deaths	833	885
Disease of the Liver ..	286	295	Fractures & Contusions	305	325
Nephria	75	85	Burns and Scalds	149	157
Convulsions.....	1013	1048	Wounds	54	68

SMALL-POX has proved immoderately severe during the whole of last winter, having caused perhaps more deaths in London during the past season, than in any six months of the preceding twelve years, excepting in 1844 and 1848, in the former of which years, 1,804 persons died from variola, and 1,617 during the latter. In consequence of the recent augmentation of mortality from this complaint, considerable alarm became created in the public mind respecting the protective efficiency of vaccination, especially as many cases were stated to have had cow-pox in early life, and hence were believed safe against secondary attacks of small-pox. I will only now remark, in reference to one question, which has occupied a prominent place in this discussion, that several data, recently collected, seem highly instructive. I now allude to the ages of those parties who have unfortunately fallen victims to small-pox during the last six months, seeing a very large proportion were under puberty. Practitioners of eminence have asserted that individuals, although properly vaccinated in infancy, may take variola when arrived at manhood; since they say, authoritatively, cow-pox will have then lost much of its prophylactic efficacy, or have been even altogether eliminated from the system. Supposing, for the sake of argument, that some foundation exists for such inferences, it must be admitted, according to irrefragable evidence, that small-pox, whether secondary or otherwise, seldom proves fatal to adults, in comparison with the large proportion of children who sink under it. Hence, however frequently variola may supervene in adults, the number of deaths is, speaking comparatively, at all events then much smaller than among infants and children; since it appear 619 fatal cases, out of the 728 recorded during the last half year, were under fifteen years of age. Taking it therefore as correct that cow-pox may occasionally become less efficacious as a protection, in after life, against attacks of variola, the facts now mentioned respecting the very great mortality of small-pox in young, compared with old, people, decidedly prove the previous argument to be altogether erroneous. On the other hand, the greater fatality of variola among young persons indicates, in a higher degree, the propriety of employing vaccination, which would, I believe, prevent more

effectually the spread of small-pox, provided that operation were always carefully and properly performed.

VIOLENT DEATHS. When these statements respecting the number of human beings, whose days were shortened by violent means, during the past half year, are compared with the number recorded throughout the two quarters immediately preceding, that is, whilst London was crowded by strangers visiting the Great Exhibition, it is exceedingly remarkable to find that the aggregate deaths through violence were less numerous, only 729 cases having been then classed in that category, thus showing a diminution of 56, or nearly one-thirteenth. These figures are both curious and instructive, besides proving the lugubrious anticipations entertained by many well-meaning, but fortunately mistaken individuals, respecting the serious results which would probably ensue, from congregating an immense additional population within the metropolis during last summer, to have been wholly erroneous, seeing that fewer fatal accidents really supervened at that period than throughout either the previous or subsequent half year.

DISEASES WHICH HAVE EXHIBITED AN UNIFORM RATE OF MORTALITY.

DEATHS.				DEATHS.			
		Sept. 1850	Sept. 1851			Sept. 1850	Sept. 1851
		to	to			to	to
		Mar. 1851.	Mar. 1852.			Mar. 1851.	Mar. 1852.
Hæmorrhage	103	..	101	Diabetes	26	..	25
Epilepsy	161	..	157	Enteritis	178	..	172
Insanity	56	..	55	Intestinal Stricture ..	20	..	23
Gout.....	28	..	26	Ileus.....	64	..	64
Calculus	10	..	12				

AGES OF PERSONS WHO HAVE RECENTLY DIED IN LONDON. As usual, a very large proportion of the deaths recently recorded have taken place amongst children and young people. Of the entire number, 12,723 were under 15 years of age, thus giving 44·71 per cent. of the whole mortality; 9,571 ranged from that period to 60, being 33·63 per cent., or one-third during the prime of life; and 6,050 had passed the latter period, of whom many had even arrived at a very advanced age. This observation is farther borne out by the reports of one week, viz., that ending the 13th of last March, when 39 men and 60 women were registered as having died at the age of 70 years and under 80; 14 men and 28 women had passed the age of 80, or were under 90; besides 2 men and 5 women, who exceeded 90 years. Amongst the latter number it deserves special record, that one of the women referred to died at the great age of 101 years, "from decay of nature". She had continuously kept an apple-stall in Great Marylebone Street for forty years, although the occupation exposed her to all weathers, until about ten months before death; whilst she had also occupied, for nearly the same period, a small room in one of the unhealthiest parts of this district of the metropolis. Besides these examples of great longevity amongst the inhabitants of London, many others might be easily collected, which indubitably demonstrate that the capital of Great Britain, however extensive or enormously populated, and notwithstanding various prevalent causes inimical to health, is still one of the most salubrious cities, speaking generally, in the world.

As an illustration of this feature, and also of the advanced period of life to which numerous persons attain in London, I may mention that, some time ago, four private patients were under my professional care at the same period, whose united ages amounted to 365 years; the youngest of the four being 87, whilst the oldest had completed her 96th year. It is further worth mentioning, that three of these parties were females, and only one male: this coincides with the opinion just enunciated respecting the great longevity of residents often met with in the metropolis, particularly amongst women.

SEX OF PERSONS RECENTLY DEAD. Although females are more numerous than males throughout the metropolis, the excess, amounting to 149,851, or about 10·75 per cent., fewer deaths were recorded amongst the former than the latter sex; the numbers being 14,411 male persons against 14,034 females; thereby indicating that the ratio of mortality ranged lowest in the weakest portion of the community. This difference may, doubtless, be partly explained by the varied occupations of the two sexes, as partly also by the very dissimilar position they respectively occupy in society, besides other influences superfluous to enumerate at present; whence greater longevity is usually met with, especially after a certain age, amongst women than men. This truth is well known to every statist, and appears to be acted upon at many insurance offices, in calculating the premiums taken on life policies, or the sums which are required for annuities.

EXCESS OF BIRTHS OVER DEATHS. During the six months comprised in this report, 40,339 human beings were born within the precincts of London; hence giving 11,894 more births than deaths, or an increase of nearly 42 per cent. for that period. Should such discrepancy betwixt births and deaths continue during any lengthened series of years (and there is no reason against future events being nearly the same as heretofore), it will not appear surprising if the metropolitan population annually increases in number, wholly irrespective of the additions made by continual immigration.

MORTALITY AMONG THE PAUPER POPULATION. Similar to the facts stated in previous reports, the proportion of deaths recently recorded among the metropolitan population, which took place in the different public charitable institutions of London, was considerable; more than one-sixth of the gross mortality, or 16·23 per cent. occurred within these establishments. This amount is rather more than in several former seasons, which may be partly explained by the circumstance, that some increase has been made to the accommodation supplied to the pauper portion of the community during sickness; for instance, a new hospital, St. Mary's, has been very recently established; besides additional wards having been opened in one of the older institutions, namely, at St. Thomas's, where 50 more beds are now available for patients.

After the remarks contained in a previous paragraph, it will be anticipated that more male than female patients have died in public institutions during the past half year. The proportion of the two sexes was 2,627 of the former, against 1,976 of the latter; thus making an aggregate of 4,603 deaths at these establishments, which gives an excess of nearly 33 per cent. of male patients. The deaths in workhouses were, however, most numerous; since, from these

establishments 2,683 cases were recorded, or 57·83 per cent. of the total pauper mortality, the majority being females. At general hospitals, an opposite condition and a different result obtained, seeing that 804 deaths, out of 1,227 reported during the last six months, were male patients; whilst not more than 423 fatal cases occurred amongst the females under treatment. The experience of former years being analogous to the facts now detailed, in reference to workhouses and general hospitals, it may be fairly inferred, as the former institutions are more frequently receptacles for aged or infirm inmates, whilst the latter receive chiefly persons labouring under acute and temporary disease, or when suffering from accidents, that female residents would therefore predominate in the first, whereas, male patients must be always admitted in greater number into the general hospitals of London, which can accommodate, altogether, about 3,320 inmates, and wherefrom 29,857 cases were discharged convalescent, or otherwise dismissed, during 1851, besides those who died in that year; the average mortality being reported at the rate of 7·59 per hundred admissions.

Considering that it might be interesting to professional readers, if some statement of the different causes of death, which occurred in St. Thomas's Hospital, during 1851, were subjoined to my previous remarks, I have therefore compiled the following table from authentic returns, kindly supplied by an official friend attached to the charity in question.

DISEASES WHICH PROVED FATAL IN ST. THOMAS'S HOSPITAL
DURING 1851.

Abscess	3	Disease of Liver	4	Pericarditis	3
Aneurism	1	.. Lungs	6	Peritonitis	2
Apoplexy	8	.. Skin.....	1	Phthisis	49
Ascites	3	.. Uterus....	1	Phlegmon	2
Burns	5	Epilepsy.....	6	Pneumonia	10
Bronchitis	1	Erysipelas	3	Poison	1
Cancer	6	Fractures	15	Purpura	1
Cephalitis	2	Glanders	1	Stone	1
Cholera	2	Hepatitis	1	Stricture of Urethra..	1
Convulsions	1	Hernia	5	Tabes	2
Diabetes	2	Hæmorrhage.....	4	Tetanus	1
Diarrhœa	1	Insanity	1	Typhus	15
Delirium Tremens ..	2	Laryngitis	1	Ulceration of Intes-	
Disease of Brain	6	Mortification	1	tines	2
.. Heart	9	Nephria	7	Violence	12
.. Joints	5	Ovarian Dropsy.....	2	Complicated	10
.. Kidneys ..	1	Paralysis	1	Unknown	8
Total.....		238			

Amongst the 238 deaths now enumerated, 79, or one-third, arose from diseases of the thoracic organs; and 49 of these were occasioned by consumption. Through maladies of the abdominal viscera 32 deaths were reported; nephria giving 7 deaths, being the most numerous. From diseases of the head and nervous system, 27 fatal cases supervened; apoplexy showing eight instances, occupying the highest position. Typhus caused death in 15 patients; whilst 15 persons also died from fractures. However, if to these be added the 5 fatal cases in consequence of burns, one by poison, and the 12 others from violence, not specifically described, it appears that 33 individuals lost their lives through violent means, thus making 13·86 per cent. on the admissions, or upwards of one-seventh of the aggregate mortality.

Before concluding my brief summary of deaths at St. Thomas's Hospital, I would only beg those taking an interest respecting such questions, specially to notice the fatal case of "glanders" reported in the previous table, on account of its great rarity in the human constitution. The subject of that unusual and very serious malady was a groom, who ultimately became its victim, notwithstanding every effort made by the experienced medical officer under whose professional care he was placed at this institution.

24, Brook Street, Grosvenor Square. June 1852.

BIBLIOGRAPHICAL RECORD.

DISEASES OF THE KIDNEY: THEIR PATHOLOGY, DIAGNOSIS, AND TREATMENT; with an Introductory Chapter on the Anatomy and Pathology of the Kidney. By GEORGE JOHNSON, M.D. pp. 517. London: 1852.

This work is well calculated to maintain and increase the high fame which the writer has already obtained as an author, and as an original observer in the department of renal pathology. Our present superabundance of matter obliges us to pass briefly over DR. JOHNSON'S book; but from the specimens of his writings which have already appeared in our pages, we feel confident that this brevity cannot be misinterpreted into any want of appreciation of the excellence of the treatise.

The subjects discussed by Dr. Johnson are: 1. Anatomy and Physiology of the Kidney; 2. Causes of Renal Disease; 3. Acute Desquamative Nephritis; 4. Chronic Desquamative Nephritis; 5. Waxy Degeneration of the Kidney; 6. Non-desquamative Disease of the Kidney; 7. Fatty Degeneration of the Kidney; 8. Suppurative Nephritis; 9. Tubercular or Scrofulous Disease of the Kidney; 10. Cancer of the Kidney; 11. Hæmaturia. The illustrations are numerous and successful.

CASES IN MIDWIFERY. By the late JOHN GREEN CROSSE, M.D., F.R.S. Arranged (with an Introduction and Remarks) by EDWARD COPEMAN, M.D., F.R.C.S., Consulting Accoucheur to the Norwich Lying-In Charity. London: 1851.

We take much blame to ourselves for having allowed this work of sterling practical value to remain so long in being warmly commended to our readers. We had hoped to have found space for an analysis of its contents: but they are of such a nature that they cannot be usefully condensed within the space which we have at our command. In present circumstances, therefore, we are forced to treat DR. CROSSE and DR. COPEMAN as we have treated DR. JOHNSON—merely mentioning the general headings of the chapters. After an introduction, in which much valuable matter is shortly but ably handled, we have Part I, in which Abortion is treated of: Part II, which contains chapters on—1. Diseases of the Soft Parts. 2. Displacement of the Soft Parts Complicating Labour. 3. Difficult Labour requiring Turning. 4. Difficult Labour requiring Embryotomy. 5. Spontaneous Evolution: Artificial Premature Labour. 6. Placenta Prævia. 7. Injuries to Soft Parts. 8. Concomitant Diseases. 9. Diseases occurring in consequence of Labour. 10. Diseases and Injuries of Infants.

The great features of this book are its valuable statistics, and the rich collection of cases illustrating important rules of practice.

CRITICAL DIGEST OF BRITISH AND FOREIGN MEDICAL JOURNALS.

[The Articles quoted or abridged are indicated by an asterisk.]

JOURNAL FÜR KINDERKRANKHEITEN.

Vol. XVIII, Nos. 1 and 2, and 3 and 4, BEING FOR JANUARY AND FEBRUARY,
AND FOR MARCH AND APRIL 1852.

- 1.* ON CONGENITAL AND HEREDITARY EPICANTHUS. By DR. SICHEL. January and February.
 - 2.* ON THE INFLUENCE OF DISEASES OF THE CHEST, and especially Empyema, in the production of SPINAL DISTORTION. By DR. RIECKE. January and February.
 3. ON IDIOPATHIC PARALYSIS IN CHILDREN. By DR. RILLIET. January and February.
 4. ON THE TYPHOID STAGE OF CHOLERA (CHOLERATYPHOID) IN CHILDREN; its Treatment by Calomel, Musk, and Tartarised Antimony. By DR. LEWENGLICK. January and February.
 5. ON THE PRODUCTION OF TENIA SOLIUM IN ST. PETERSBURG. By DR. BRAUN. January and February.
 6. CLINICAL OBSERVATIONS IN THE CHILDREN'S HOSPITAL AT MUNICH. By DR. HAUNER. January and February.
 7. ON CEPHALHÆMATOMA IN NEW-BORN CHILDREN, and on the most proper Treatment. By PROFESSOR LEVY (of Copenhagen). March and April.
 - 8.* MEMORABILIA OF PRACTICE IN DISEASES OF CHILDREN. By DR. RIECKE. March and April.
- [The subjects treated of are, *Suppuration in the Mastoid Process in Children; *A Result of Congenital Phimosis; On the Aid of Nature and of Art in Cases of Cleft Palate; On Corrosive Sublimate in Acute Hydrocephalus; On Umbilical Hæmorrhage in New-born Children; On Criticism; Extirpation of a Medullary Tumour from the Orbit, with Remarks on the External Application of Acetate of Lead to Parasitic Growths.]
9. CLINICAL CONTRIBUTIONS. By DR. VON MAUTHNER. March and April. On the so-called Laryngismus; *On Diseases of the Skin in Children; and on *Blood-letting in Childhood.
 10. REPORT OF DR. HAUNER'S HOSPITAL FOR CHILDREN, during November and December 1851. By DR. ALFRED VOGEL. March and April.

ON CONGENITAL AND HEREDITARY EPICANTHUS. BY DR. SICHEL.

Congenital Epicanthus is noticed by DR. SICHEL to frequently accompany that abnormal configuration, which is characterised by flattened and wide nasal bones. In these cases, the integument, instead of being stretched evenly between the root of the nose and the inner commissure of the eyelids, forms a semilunar fold directed from above downwards, with the concavity looking outwards and towards the eyeball. It sometimes extends from the inner third of the upper eyelid to the junction of the inner with the middle third of the lower one, covering in the caruncula lachrymalis, and a great part of the sclerotica; sometimes it commences less superficially, at a greater distance from the eyebrow, yet so that it is not shorter, but only narrower. In the latter case, it may be readily overlooked.

The effects vary according to the degree. The fully developed form gives rise to a peculiar disagreeable expression of countenance, reminding one of the Mongolian race. There is difficulty in opening the eyelids; and lateral

vision is much impeded, the eye being often partially covered when the patient looks inwards. The puncta lachrymalia generally occupy their normal position.

The deformity is congenital, and is usually present on both sides. Dr. Sichel regards it as resulting from a development of the integument, disproportionate to the size of the nasal bones which support it. He has arrived at the conclusion that it is connected with flattened nasal bones, and that it may be considered as transitional between the Caucasian and Mongolian races, from an examination of the Iowa Indians, some time ago exhibited in Paris. The following points connected with the subject are interesting, but require to be determined by accurate data. 1. Does epicanthus become more frequent as we advance eastward? *i.e.* among the Mongolians than among the Caucasians? 2. The more aquiline the nose is, the less likely is epicanthus to occur; and Dr. Sichel has never found it in persons of the Jewish race. 3. It decreases from north to south; especially in Spain, where the European and the Asiatic blood of the Caucasian race has been intermixed.

The deformity may be hereditary. Dr. Sichel saw a gentleman with epicanthus, who had five sons and one daughter all similarly affected, while one son and four daughters were free from the deformity. One of the sons had a daughter, who also had epicanthus.

Epicanthus is sometimes imperfect, there being a mere trace of it on one or both sides. It is not of much importance, not impeding the motion of the eyelids, nor producing deformity properly so called. Single epicanthus is very rare; and may be regarded rather as a species of imperfect double epicanthus, the rudimentary form of the disease being present on the other side, and the nasal bones possessing the peculiar conformation.

The treatment consists in raising a pinch of skin at the root of the nose, and excising it. The edges of the wound are brought together; and by this means the folds are obliterated.

The most common complications of epicanthus are ptosis and convergent strabismus: erosion of the abnormal fold from the tears and irritating secretion may also occur; and a kind of entropium may sometimes attend the deformity.

ON THE INFLUENCE OF DISEASES OF THE CHEST IN THE PRODUCTION OF DISTORTION OF THE SPINE. BY DR. RIECKE.

The object of this elaborate paper is to show that distortion of the spine frequently arises from diseases impeding the action of one lung, and that the most marked effects in this respect are produced by empyema; phthisis, pneumonia, and other diseases affecting the lung itself, will also have the same results. When distortion appears more directly connected with rickets, osteomalacia, etc., even then, according to Dr. RIECKE, these conditions are the results of imperfect organisation of the lungs.

The following extract will show Dr. Riecke's idea as to the production of spinal distortion by pulmonary disease:—

“The normal form of the thorax can only be preserved, when both sides are equally filled by the lungs; and these must be developed equally, as the individual grows. When, therefore, the lung of one side is arrested in development and expansive power, this side becomes flattened and sinks in, and the thorax is no longer supported; while the lung on the other side, having to perform additional and vicarious function, grows more powerful, and exceeds its normal development. The ribs on the sound side assume a more horizontal direction, become more arched, and push the thorax towards the diseased side; and from this arises distortion of the spine. This inclination towards the diseased side is also favoured by the greater size of the sound lung, and by its containing a larger quantity of blood, as well as by the larger size of the waist on that side, so that the patient leans towards

the affected side to preserve his equilibrium; and this inclination, at first voluntary, becomes habitual, and the muscles of the diseased side become shortened. Besides being bent, the spine is also twisted: for the ribs of the sound side are raised more powerfully, and this side becomes more arched, and thus the spinous processes are pushed towards the concave side, while the bodies of the vertebræ incline towards the convex side. In the same way, the sternum is turned towards the concave side."

Dr. Riecke believes that many of the cases in children, called habitual distortion, and considered to arise from shortening of the muscles of one side, in reality are connected with pleural disease, which has led the child to lean habitually to one side to relieve or prevent pain, by limiting the expansion of the chest.

SUPPURATION OF THE MASTOID PROCESS IN CHILDREN.

BY DR. RIECKE.

DR. RIECKE observes that extension of suppuration from the ear to the mastoid process is a rare occurrence. In 1835, he observed three cases of this kind—the only ones with which he has met in a practice of thirty years. The cases recovered under simple treatment: in one of the children, who was afterwards accidentally killed by a blow from a windmill, he found a passage of the size of a crow-quill in the mastoid process, extending as far as the inner lamella of the temporal bone, and lined with a thin membrane, covered with a brown fatty matter. The cells of the mastoid process beyond the reach of the sinus were healthy.

ON AN EFFECT OF CONGENITAL PHIMOSIS. BY DR. RIECKE.

In a young man, twenty years old, the subject of congenital phimosis, Dr. RIECKE found that the expulsive power of the urethra was lost, so that the urine, instead of being ejected, simply flowed out as from a tube. The canal had become so dilated, that it was wider than the neck of the bladder; and more than a quart of urine could be poured out in a few seconds. The ejection of semen would also probably be impossible.

Dr. Riecke remarks, as an evidence of the state of surgery in the provinces (in Prussia) that, although the nature of the disease must have been evident, yet none of the surgeons whom the patient had consulted, had proposed an operation, while all had prescribed diuretics.

ON ECZEMA IMPETIGINODES IN CHILDREN. BY DR. MAUTHNER.

Cases of variola and of eczema impetiginodes were often observed during last winter in the hospital in Vienna. The latter disease had several points of resemblance with variola. Vesicles were formed, filled with a turbid purulent fluid; these were developed into pustules; and finally desquamated. The disease promoted the development of scrofula, where a marked predisposition existed; but it freed the body from local scrofulous affections. None of the children died. Mercurial ointment was applied on linen rags to the eyes, the labia majora, and the nostrils, to arrest the excessive development of the disease. In several cases, rigors occurred on the ninth day of the vesicles. If any threatening symptoms—as coldness of the skin, blueness and collapse of the pustules—appeared during the stage of suppuration, full doses of camphor were given with excellent effect. During desquamation, albumen was found in several cases in the urine, which was pale and generally alkaline. Traces of albumen were also observed in other diseases of children, as in typhus and tubercular exudations. In none of these cases was there dropsy. Hæmaturia occurred in one child, affected with dropsy, eczema impetiginodes, and scrofulous disease of the cervical vertebræ. This patient recovered from the urgent symptoms.

The treatment consisted in wrapping the parts affected in cotton wool,—or still better in silk wadding,—and in the administration of Fowler's solution of arsenic. DR. VON MAUTHNER gave six drops daily for a fortnight to a child four years old. On the fifteenth day, diarrhoea, and cough with fever, appeared; but these left the patient in two days; and the child was perfectly cured at the end of two months. Inunction with bacon has proved serviceable in eczema furfuraceum.

ON BLOOD-LETTING IN CHILDREN. BY DR. MAUTHNER.

DR. MAUTHNER believes that bleeding may be safely dispensed with in many of the diseases of children, as in catarrhal pneumonia; but that it is a valuable remedy in some cases of pneumonia. The following are the circumstances under which an extensive practice has shown him that it is called for: 1. Pneumonia with great vascular and nervous excitement,—delirium, violent fever, and even suppressed pulse with muscular weakness; 2. Pneumonia with suppression of the secretions and excretions—dry skin, scanty urine, dry, ringing, and frequent cough; 3. Orthopnoea, and symptoms of impending asphyxia, with pain in the chest (when the child can point it out); 4. Pneumonia with the physical signs very distinctly marked; 5. A strong and at least healthy constitution; 6. Pneumonia of the lower lobes, combined with pleurisy; 7. Blood-letting is, according to his experience, absolutely necessary in cases of pneumonia occurring during the summer.

BULLETIN GENERAL DE THERAPEUTIQUE.

VOL. XLII, PARTS 1-6; BEING FOR JANUARY, FEBRUARY, AND MARCH 1852.

1. A WORD ON THE PROGRESS OF OUR LABOURS IN INTERMITTENT FEVERS; EMPLOYMENT OF A NEW SALT OF IRON IN THE TREATMENT OF THESE DISEASES. January 15.

[The remedy alluded to is the per-sesquinitrate of iron, said to be employed successfully by Dr. W. Kerr, in Canada.]

- 2.*THE TREATMENT OF OPHTHALMIA, ESPECIALLY BY OCCLUSION OF THE EYELIDS. By PROFESSOR FORGET. January 15.
3. NEW METHOD OF TREATMENT OF FRACTURES OF THE ALVEOLAR PORTION OF THE LOWER JAW. By M. ROBERT. January 15.
4. ON THE METHODS OF COVERING PILLS. By M. DORVAULT. January 15.
- 5.*LEADEN BALL INTRODUCED INTO THE AIR-PASSAGES; SPONTANEOUS EXPULSION AFTER MORE THAN FORTY DAYS. By DR. BENEYS. Jan. 15.
- 6.*PRACTICAL REMARKS ON THE SUSCEPTIBILITY AND THE RESISTANCE OF THE SKIN TO THE ACTION OF IRRITANTS, AND IN PARTICULAR TO TARTAR-EMETIC. By DR. DUPARCQUE. January 30.
7. OBSERVATIONS ON CERTAIN TUMOURS OF THE MOUTH FORMED BY HYPERTROPHY OF THE SALIVARY GLANDS OF THE MUCOUS MEMBRANE; SIMPLE PROCESS FOR THEIR REMOVAL. January 30.

[These are simple encysted tumours, easily removed entire on making an incision.]

8. ON THE VALUE OF FORCIBLE DILATATION IN CONTRACTION OF THE ANUS. January 30.

9. FORMULA FOR THE USE OF MATICO. By M. DORVAULT. January 30.

10. FACTS RELATING TO SYPHILITIC NEURALGIA. By DR. E. VAULPRÉ. Jan. 30.

11. A VERY SIMPLE METHOD FOR EXTRACTING PORTIONS OF A GUTTA-PERCHA BOUGIE, BROKEN IN THE URETHRA, By M. DE MONTOLON. January 30.

[This process consisted in pulling out the portions of bougie remaining in the urethra by means of a small hook.]

12. ON THE TREATMENT OF CHOREA: CURE BY STRYCHNINE. By PROFESSOR FORGET. February 15.

13. COMPARISON BETWEEN CAUTERISATION AND TORSION OF THE VEINS IN VARICOCELE. By PROFESSOR BONNET. February 15.
[M. Bonnet gives the preference to cauterisation with chloride of zinc, the veins having been carefully isolated and laid bare.]
14. ON THE PROPER PERIOD FOR GATHERING POPPY-CAPSULES. February 15.
- 15* LETTERS ON THE ENDERMIC APPLICATION OF TARTAR-EMETIC. By DRs. JULES GUÉRIN and DUPARCQUE. February 15.
16. PATHOLOGY AND TREATMENT OF PALUDAL DISORDERS. By M. MICHEL LÉVY. February 29.
17. ON SUBSTITUTES FOR QUININE: INTERMITTENT FEVER CURED BY A TURPENTINE LINIMENT RUBBED ALONG THE SPINE. February 29.
18. ON THE VALUE OF TRACHEOTOMY IN ŒDEMATOUS LARYNGITIS. By M. SESTIER. February 29.
19. ON THE MEANS OF RECOGNISING CHLOROFORM IN THE BLOOD AND PRINCIPAL VISCERA. February 29.
20. ON THE TREATMENT OF VARICOCELE, AND ON NEURALGIA OF THE CORD. By M. VIDAL DE CASSIS. February 29.
21. CASE OF INCOMPLETE DISLOCATION OF THE RIGHT TIBIA BACKWARDS, AND COMPLETE OF THE LEFT TIBIA FORWARDS: RAPID RECOVERY. February 29.
22. TRANSVERSE FRACTURE OF THE LOWER END OF THE TIBIA SIMULATING DISLOCATION OF THE KNEE. February 29.
- 23.* NEW RESEARCHES ON MANGANESE AS AN ADJUVANT TO IRON. By Dr. J. E. PÉTREQUIN. March 15 and 30.
24. ON MERCURIAL FRICTIONS IN SYPHILIS COINCIDENT WITH THE FIRST MONTHS OF PREGNANCY. By M. J. MAZADE.
25. ON THE TREATMENT OF DISEASES OF THE EAR BY MEANS OF INSUFFLATION AND CATHETERISM OF THE EUSTACHIAN TUBE. By PROFESSOR FORGET. May 15 and 30.
26. ABSCESSSES OF THE BREAST: SUBMAMMARY ABSCESSSES. By M. VELPEAU. March 15 and 30.
27. COMPARATIVE CHEMICAL ANALYSIS OF THE ROOTS OF RHATANY AND OF TORMENTIL. By M. DAUSSE. March 15 and 30.
- 28.* PREPARATION OF SALTS OF IRON WITH MANGANESE. March 15 and 30.
29. ON THE TREATMENT OF ECZEMA. By Dr. DAUVERGNE. March 15 and 30.
30. SYNCOPE PRODUCED BY CHLOROFORM, CONTINUING AN HOUR AND A HALF. By Dr. BEYRAN. March 15 and 30.

THE TREATMENT OF OPHTHALMIA, ESPECIALLY BY OCCLUSION
OF THE EYELIDS.* BY PROFESSOR FORGET.

M. FORGET, after passing in review the different means used in the treatment of ophthalmia, directs particular attention to the use of cold applications, and occlusion of the eyelids.

The use of cold water he believes to be beneficial in almost all cases of ophthalmia. The application must be permanent, frequently renewed, and continued until the symptoms have completely disappeared. The addition of vinegar, acetate of lead, alum, etc., is almost useless. He has seen good effects result from this treatment in cases of simple injection, in severe inflammation, pain, photophobia, and even in ophthalmic blennorrhœa. Even in cases where topical applications are ill borne—in ophthalmia with relaxation of the tissues—the employment of cold water may still be useful.

This remedy necessitates occlusion of the eyelids; and M. Forget doubts whether the benefit is not really owing to this circumstance. In many cases simple occlusion is sufficient, but cold applications are an useful adjunct where there is much redness, heat, pain, and swelling. The advantages of occlusion are, that the organ is kept in a state of repose, protected not only from light, but from the air and from foreign bodies; that the eye

is maintained in a state of equable moist heat ; and that the eyelids are made to exercise a mild, equal, permanent, *natural* compression on the inflamed parts. M. Forget relates some cases of severe ophthalmia, in which occlusion was tried with marked benefit, sometimes after the usual remedies had been employed without effect. It is sufficient to keep only the affected eye closed ; a bandage is the best means. In cases of rheumatic, scrofulous, or other specific forms of ophthalmia, other means may also be necessary. When there is much muco-purulent secretion, it will be necessary to cleanse the eye carefully.

INTRODUCTION OF A LEADEN BULLET INTO THE AIR-PASSAGES :
SPONTANEOUS EXPULSION AFTER REMAINING MORE THAN
FORTY DAYS. BY DR. BENEYS.

The patient, V., aged 21, had an attack of bronchitis. One day, a pistol-bullet, which he had in his mouth, passed, during a deep inspiration made after coughing, into the larynx ; it descended along the trachea, and entered the right bronchus, stopping at the root of the lung. The symptoms produced were pain in the right side of the chest, hectic, marasmus, suffocative spasmodic cough, and other marks of advanced pulmonary consumption. While in this state, he was one day stooping forward, when he coughed up the bullet with about three table-spoonfuls of pus. In about two months, health was perfectly restored.

DR. BENEYS thinks that this case points out the propriety of trying the effect of placing the patient, who may have allowed a foreign body to pass into the air passages, in a favourable position for its expulsion. Notwithstanding the favourable termination of this case, we must not trust too much to the resources of nature : for this man would have inevitably died if he had not fortunately, being accidentally in a favourable position, expelled the bullet.

ON THE SUSCEPTIBILITY AND RESISTING POWER OF THE SKIN TO
THE ACTION OF IRRITANTS IN GENERAL, AND ESPECIALLY
TO TARTAR-EMETIC. BY DR. DUPARCQUE.

LETTERS ON THE STIBIO-DERMIC METHOD. BY M. JULES GUÉRIN.

MM. DUPARCQUE and GUÉRIN seem to each claim the priority of employing inunction of tartar emetic in the treatment of inflammatory affections. M. Duparcque claims to have stated the following propositions, with others, as long ago as 1829 :

1. In violent inflammations of the viscèra, and in severe fevers, the skin is not sensible to irritants ; but the power of absorption persists.
2. In such conditions, friction with tartar-emetic does not provoke pustulation, but the medicine will produce the same effects as if it were taken into the stomach.
3. In serous inflammations with effusion (pleurisy, pleuro-pneumonia, peritonitis, metro-peritonitis, etc.), the curative properties of tartar-emetic, employed by cutaneous absorption, are as efficacious as in inflammation of parenchymatous organs.

M. Duparcque employs one part of tartar-emetic to thirty parts of lard, and rubs the whole body with it for ten or twelve minutes. M. Guérin uses one part to two ; and rubs it only on that part which he finds to resist pustulative action ; he continues its use for days or weeks.

ON THE USE OF MANGANESE AS AN ADJUVANT TO IRON.

BY M. PÉTREQUIN.

M. PÉTREQUIN quotes various authors to prove that manganese is a normal constituent of animal and vegetable tissues ; and believes that wherever iron is present in appreciable quantity, manganese coexists with it. Hence iron

alone will not always succeed in blood-diseases. M. Pétrequin has observed many cases of chlorosis, which have resisted iron as obstinately as anæmia connected with cancer or organic degeneration. Other cases again, after deriving a certain amount of benefit from iron, remain stationary. Others again appear cured by iron, but the cure is not permanent. The remedy required in these cases, M. Pétrequin finds to be manganese. He does not give it or iron alone ; but combines them.

It is especially in *diseases of the blood* that ferro-manganic medicines are useful. They have a special action on the vascular apparatus, on the formation of the blood, and on the circulating fluid itself. They do not act merely as tonics or astringents ; but are regenerators of the blood. They have succeeded admirably in anæmia following hæmorrhage, operations, polypi, metrorrhagia, etc. ; also in the chlorosis attending puberty, which is a more common disease than is generally supposed, and occurs even in males. M. Pétrequin has also frequently found the combinations of iron with manganese of benefit in the diseases of women at the critical period. He has often seen, in these subjects, *metrorrhagia*, accompanied with an aspect of the surface which would lead to the suspicion of organic uterine disease : the hæmorrhage, however, was but a complication, and the patients, apparently in a hopeless state, have recovered under the use of ferro-manganic preparations, conjoined with tonics and ergotine.

In *amenorrhœa* and *dysmenorrhœa*, the patients often imagine that they require to be bled ; but care must generally be taken not to comply with this request. M. Pétrequin has more than once seen cases of amenorrhœa with severe chlorosis, in which it has not been desirable to hasten the appearance of the catamenia—the consequent loss of blood aggravating the disease. The general state of health must here be carefully attended to. Œdema of the lower limbs sometimes occurs in these cases ; but it is a less severe complication than when it attends metrorrhagia. It often disappears, as the patient recovers, under the use of iron and manganese.

These medicines are no less efficacious in the treatment of *anæmia* resulting from prolonged intermittent fevers, prolonged suppuration, strumous, syphilitic, or cancerous affections, phthisis, etc. Pills and the syrup of the iodide of manganese and iron are preferable in these cases.

In all these cases, the ferro-manganic preparations do not merely act on the stomach and nervous system, but they are absorbed, and assist in the formation of hæmotosine and new blood-globules, so as to restore the blood to its normal condition. Their effect in this way is greater than that of iron alone.

In the *functional affections of the heart* connected with chlorosis and anæmia, and which must not be mistaken for organic disease, a combination of iron and manganese with digitalis and other moderators of the heart's action is advantageous. The same remark applies to the *functional disorders of the lungs*, attending the same constitutional states.

Disordered states of the nervous system are intimately connected with those of the blood. M. Pétrequin has found that the ferro-manganic preparations succeed well in these, even though uncomplicated with chlorosis. He, as well as M. Gubian, has observed that iron is here better tolerated when combined with manganese. He has also seen benefit from the use of iron with manganese in many cases of *dyspepsia*, *gastralgia*, and *gastro-enteralgia*. Nervous affections of the digestive organs are often the result of chlorosis ; and, where stomachics and cinchona have failed, iron has often been found (especially the carbonate, by some English physicians) to be of service. Gastrodynia complicating chlorosis has often yielded to the use of ferro-manganiferous water, and to pills of carbonate of iron and manganese.

In *nervous affections connected with exhaustion* from venereal excesses, onanism, rapid growth, etc., as well as in leucorrhœa, diabetes, etc., M. Pétrequin has a high opinion of these medicines. He is continuing his

researches on their action in certain cases of sterility from asthenia, and in some hyposthenic affections of the scalp, such as early baldness, alopecia, etc.

M. Pétrequin has confined his observations to a limited number of the ferro-manganic preparations ; and has made many observations before publishing the formulæ which he finds most useful. Having found, even at an early period, that the medicines were liable to adulteration, he has availed himself of the assistance of competent pharmacutists. Since the publication of his first memoir, in 1849, these medicines have been extensively used in the south of France and in foreign countries.

The formulæ are few, and correspond to the preparations of iron generally used in France. They are : 1. *Pills* of carbonate of iron and manganese, or of iodide ; 2. *Lozenges* of lactate of iron and manganese ; 3. *Syrups* of lactate or of iodide of iron and manganese ; 4. *Ferro-manganic chocolate* ; 5. *Effervescing solution* of iron and manganese.

It has been observed that manganese not only preserves water, but purifies that which has undergone change (Martin-Lauzer). Ferro-manganic waters (of which there are many in France and other parts of the continent) can be preserved and carried to a distance ;—which cannot generally be done with simple ferruginous waters.

M. Pétrequin commences by giving the powder of iron and manganese, with some vinous drink ; he then administers two pills daily, one before breakfast and one before dinner, replacing them soon by the lozenges. The syrups and chocolate complete the treatment. He gives the medicines at meal time. The syrup he gives before breakfast, in doses of a tea-spoonful ; and he finds it useful to administer directly after it some infusion of centaury, or of camomile flowers and orange.

Large doses are unnecessary and useless ; for they are liable to produce irritation of the stomach and exhaustion of the nervous system ; and the reparation of the blood is slow and progressive, and cannot, even were it desirable, be effected rapidly. Besides, the iron and manganese are not absorbed in any greater quantity, if large doses are given.

PREPARATIONS OF MANGANESE AND IRON.

M. BURIN-DUBUISSON of Lyons, who prepared most of the ferro-manganic combinations used by M. Pétrequin, has published an interesting *brochure*, in which he gives the necessary details relating to the subject. The following formulæ are extracted from it.

Powder for Effervescing Solution of Manganese and Iron. Take of coarsely powdered bicarbonate of soda, 20 parts ; tartaric acid, 25 parts ; powdered sugar, 53 parts ; finely powdered sulphate of iron, $1\frac{1}{2}$ part ; finely powdered sulphate of manganese, $\frac{3}{4}$ parts : mix carefully, and keep in well stopped bottles. A teaspoonful is mixed with each glass of wine and water drunk during meal time.

Pills of Carbonate of Iron and Manganese. Take of pure crystallised sulphate of iron, 75 parts ; pure crystallised sulphate of manganese, 25 parts ; crystallised carbonate of soda, 120 parts ; honey, 60 parts ; water, a sufficient quantity. Pills of 20 centigrammes (3 grains) are made ; they keep easily, without becoming oxidised, in well-closed vessels. From two to four are given daily.

Ferro-manganic Chocolate. One part of carbonate of iron and manganese is first mixed with four of sugar, and divided into large lozenges ; of these, 100 parts (grammes) are mixed with 500 of chocolate paste, in the preparation of which 100 parts of sugar have been left out. This will make 800 lozenges, each of which contains about 3 centigrammes (nearly half a grain) of carbonate of iron and manganese. The chocolate decomposes the hydrated carbonate of manganese and iron of the saccharate into hydrated sesquioxide of iron and manganese ; there is no metallic taste.

Syrup of Lactate of Iron and Manganese. Take of lactate of iron and manganese, 4 parts; powdered sugar, 16 parts; rub together, and add of distilled water, 200 parts; dissolve rapidly, and pour into a matrass over a water-bath, containing 384 parts of broken sugar: filter the solution. This syrup contains about 15 parts of lactate of iron and 5 of lactate of manganese in 3000 parts. One or two spoonfuls are taken daily.

Lozenges of Lactate of Iron and Manganese are made by adding 20 parts of the lactate to 400 of fine sugar, with a sufficient quantity of water. The mass will make 840 lozenges; of which six or eight are taken daily.

Syrup of Iodide of Iron and Manganese. M. Burin-Dubuisson forms a solution of iodide of iron and manganese, in the proportion of one part by weight to two of water: the proportion of the salts is about three of iodide of iron to one of iodide of manganese. Six parts of this are mixed with 294 of simple syrup; of this, M. Pétrequin gives one or two spoonfuls daily.

Pills of Iodide of Iron and Manganese. Take of the official solution prepared by M. Burin-Dubuisson, 16 parts (grammes); honey, 5 parts; some absorbent powder, $9\frac{1}{2}$ parts. Divide into 100 pills. The honey and the solution are first mixed, and evaporated at first rapidly, then more slowly, to 10 parts. Then add the powder, and divide the mass into four parts, which must be rolled in powder of iron reduced by hydrogen; each of these must then be divided on an iron plate into 25 pills, and again rolled in the iron powder. Finally, they are covered with a layer of tolu, according to M. Blancard's process.

All these preparations must be made very carefully. M. Burin-Dubuisson has ascertained that the commercial salts of manganese frequently contain copper, and even arsenic; he hence insists on the necessity of calcining the sulphate of manganese, twice, or more frequently, at a dark red heat, and of carefully testing the solution.

DEUTSCHE KLINIK.

JANUARY, FEBRUARY, AND MARCH 1852.

1. CASES OF CHRONIC DISEASE OF THE KIDNEYS, IN THE CLINICAL WARDS OF DR. FRERICH'S. By DR. BARTELS. January 10, and 31; March 20, and 27.
2. ON THE USE OF COLD AFTER THE CÆSAREAN SECTION. By DR. METZ. January 17, and 24.
3. ON THE RELATION OF SURGERY TO PATHOLOGICAL ANATOMY. Does Histology enlighten us in the Diagnosis and Prognosis of Tumours? By DR. SCHINDLER. January 24, and 31.
- 4.*TWO CASES OF LOCAL SWEAT. By DR. HEUSINGER and DR. NOLL. January 24.
5. CASE OF PYÆMIA. By DR. HEYFELDER. January 31.
6. ON THE TREATMENT OF MASTITIS BY COLLODION. By DR. SPENGLER. February 7.
7. ON TANNIN IN HOOPING COUGH. By DR. GERHARD VON BREUNING. February 7.
8. REPORT OF THE OBSTETRIC CLINIC IN THE UNIVERSITY OF MUNICH from January 1 to November 1, 1850. By DR. HOFMANN. February 7, and 21. [Continued from No. 52, of vol. for 1852.]
9. CASE OF STRICTURE OF THE URETHRA: Uræmia: Gangrene of the Tongue: Paralysis of the Facial Nerve. By DR. VON GIETL and DR. ZUCCARINI. February 7.
10. ON THE TANNATES OF CINCHONIN AND QUININE. By DR. WUCHERER. February 14.
- 11.*INFLUENCE OF PREGNANCY ON THE DEVELOPMENT OF OPHTHALMIA. By DR. HIRSCHLER. February 14.
12. CASE OF GUN-SHOT WOUND OF THE EYE. By DR. HIRSCHLER. Feb. 14.

13. CASE OF INFLAMMATION OF THE HIP: PYÆMIA. By DR. VON GIETL and DR. ZUCCARINI. February 14.
- 14.*CASE OF ACUTE PURPURA HÆMORRHAGICA. By DR. REUMONT. February 14, and 21.
15. MEDICAL REPORT ON THE HOUSE OF INDUSTRY IN BERLIN for the year 1851. By DR. R. LEUBUSCHER. February 21.
- 16.*ON THE ABORTIVE TREATMENT OF ERYSIPELAS BY COLLODION. By DR. SPENGLER. February 21.
- 17.*ON THE DEVELOPMENT OF CENTRAL PYRAMIDAL CATARACT. By DR. VON AMMON. February 28.
18. ON THE TREATMENT OF TYPHUS. By DR. ZIMMERMANN. February 28.
- 19.*ON A NEW SPECIES OF TÆNIA IN MAN (*Tænia Medico-cancellata hominis*, seu *Zittaviensis* (auct.)). By DR. KÜCHENMEISTER. February 28.
20. CASES OF CANCER OF THE LUNG, occurring in the Clinical Practice of DR. SEITZ. February 28, March 6.
21. SARCOMA OF THE NECK: Hæmorrhage from the Carotid on the fourteenth day after Extirpation, Ligature: Pyæmia: Death. In the practice of DR. LANGENBECK. By DR. A. WAGNER. February 28.
22. PERFORATION OF THE RECTUM BY AN ULCERATED OPENING: Effusion of Fæcal Matter into the Pelvis: Formation of an Extensive Abscess behind the Peritoneum, in front of the lumbar vertebrae and sacrum: Hectic Fever: Death. By DR. WUTZER and DR. H. SCHAUENBURG. February 28.
23. ON A CASE OF LUMINOUS EYE. By DR. SCHINDLER. March 6.
24. CASE OF OPERATION FOR RUPTURED PERINÆUM AFTER LABOUR. By DR. WUTZER and DR. H. SCHAUENBURG. March 6.
- 25.*ON SUB-CONJUNCTIVAL OPHTHALMIA. By DR. VON AMMON. March 13.
26. CASES OF DISLOCATION OF THE HUMERUS; with Observations. By DR. C. STREUBEL. March 13.
27. CLINICAL LECTURE ON DENTITION AND THE DISEASES INCIDENT THERETO. By DR. HAUNER. March 13.
28. ON SYME'S OPERATION FOR STRICTURE OF THE URETHRA. By DR. G. SEYDEL. March 20.
29. CONTRIBUTIONS TO THE DIAGNOSIS OF HERNIA. By DR. EULENBERG. March 20.
30. CASES OF OPERATION FOR CLUB-FOOT in the Surgical Clinic at Erlangen, during 1850 and 1851. By DR. O. HEYFELDER. March 20.
31. CASES OF PNEUMONIA TREATED WITH CHLOROFORM. By DR. THEILE. March 20.
32. ACUTE HYDROCEPHALUS WITH SOFTENING OF THE BRAIN IN AN ADULT. By DR. NAUMANN. March 20.
33. ON DELIVERY WITH THE FORCEPS. By DR. HOHL. March 27.
34. CARCINOMA OF THE NECK, IMPEDING RESPIRATION: Operation, Return of the Disease: Threatened Suffocation: Tracheotomy successfully performed. By DR. B. LANGENBECK and DR. A. WAGNER.
35. CASE OF FRACTURE OF THE FIRST AND SECOND METATARSAL BONES. Chopart's Operation: Recovery. By DR. G. ROSS. March 27.
36. CASE OF GLANDERS. By DR. SABERSKY. March 27.
37. PREGNANCY WITH IMPERFORATE VAGINA. By DR. ENGELMANN. March 27.

TWO CASES OF PARTIAL SWEAT. BY DR. NOLL.

These cases occurred in the clinical practice of Professor HEUSINGER, of Marburg.

CASE I. The patient was a shoemaker, aged 36½ years. His parents and relatives were healthy. Fourteen years previously, he had suffered from rheumatism; and eight years after, had intermittent fever: after which he remained in good health, with the exception of some loss of flesh and strength.

For about three months he had observed that he perspired profusely on the right side of the face, and there alone. No cause could be assigned for this phenomenon.

When admitted into hospital, on November 17th, there was no trace of sweat on the rest of the body, while the right side of the face was bathed in it. The limit to the inner side was the middle line of the face, including the forehead, nose, upper and lower lips, as well as the front part of the head. Above, it corresponded to the coronal suture, passed in an arched form to the front of the right ear, to the angle of the lower jaw, and along its lower border to the chin. There was no sweat below the jaw nor behind the ear. When the surface was wiped, points of sweat immediately appeared, first below the inner angle of the eye, in the situation of the infraorbital foramen, then extended successively over the forehead and inner half of the eye-brow, the nose, the upper lip, below the ala nasi, and on the chin. The points soon formed into drops; and, in two or three minutes, the sweat ran in streams. The hair on the temple was as wet as if it had been dipped in water; the sweat was slightly diminished by remaining quiet for some time, but it never entirely disappeared. It was increased by walking, labour, and eating, and also, though in a less degree, by elevated temperature. Cold had no effect on it: but at night it was less copious. The reaction was perfectly neutral. For eight weeks, the patient had observed the right eye to be weaker than the left.

No difference could be detected between the two sides of the face, as regarded development, colour, temperature, or motion; but the right side was more sensible to changes of temperature and to pressure. There was no difference in function between the two sides of the tongue. The pulsation in the carotid and other arteries was alike on both sides: and there were no tumours of any kind. There were scars of knife-wounds on the right side of the forehead; but these had been inflicted after the sweat first appeared. The parts were bathed with a lotion of spirits of rosemary and other herbs; and, at the time when the report was made, the sweating had diminished, though it had not entirely disappeared.

CASE II occurred in an engineer, aged 38 years, who had also been the subject of intermittent fever. The sweat in this case extended inwards to the middle line of the face and neck, outwards and backwards over the top of the head to the occiput, then towards the left shoulder, then obliquely over the deltoid, and for three or four finger breadths under the clavicle to the middle line. The general condition of the patient in other respects, as in the previous case, presented nothing remarkable.

ON THE INFLUENCE OF PREGNANCY ON OPHTHALMIA.

BY DR. HIRSCHLER.

Cases have occurred in the practice of DR. HIRSCHLER, in which females, in successive pregnancies, have been seized with attacks, or at least aggravations, of ophthalmia, attended with considerable infiltration of the conjunctiva, pannus, trichiasis, etc. In other cases again, he has observed already existing chronic ophthalmia to undergo aggravation during this period: and, in one case, the affection had been increased during each of sixteen successive pregnancies, so that the functions of the eye were considerably impaired. In some instances, pregnancy is attended with merely some infiltration of the Meibomian and mucous glands, with or without suppuration. Dr. Hirschler is acquainted with a woman, who, at the commencement of each pregnancy, has one or two styes in her eye, which again disappear after delivery.

These attacks or aggravations of ophthalmia during pregnancy, Dr. Hirschler thinks, probably bear some relation to the development of cranial

osteophytes, to exanthemata on the forehead, cheeks, etc., which latter frequently withstand all remedies, but disappear after delivery. But whether there is any immediate relation, and of what kind, between the ophthalmia of pregnancy and the thickening of the bones, we are not yet in a condition to determine.

ON THE FORMATION OF CENTRAL PYRAMIDAL CATARACT.

BY DR. VON AMMON.

DR. VON AMMON describes the case of an unhealthy child, two and a half years old, the subject of frequent general convulsions. It held the head with the chin resting on the sternum ; the eyes rotated violently ; the eyelids would suddenly be opened wide, and then convulsively closed ; and with this sometimes alternated a rotatory motion of the head. The iris was brown ; the pupil small and eccentric, but circular. The cornea was rather lengthened ; and the limit between it and the sclerotica was not well defined. Both were very white ; viewed laterally, the cornea was somewhat conical. Through the narrow pupils, there projected a clear white pyramidal body into the anterior chamber. On dilating the pupils with belladonna, the projection appeared conical ; the apex was very white, the base less so ; and it appeared to be seated on the lens and its capsule. The child having died of convulsions, an examination of the eyes was made.

The eyes were of a more globular form than natural. At the junction of the sclerotica with the cornea, the sclerotica formed a projection, giving rise to the appearance of a circular channel. From the side, the projection through the pupil into the anterior chamber was seen ; it was closely surrounded by the iris, so that the transparent part of the crystalline lens could not be seen through the pupil. Viewed from behind, the lens and capsule appeared normal ; and through it were seen two dark circles, produced by the base of the pyramidal projection. The sclerotica was thicker than usual ; the iris was brown ; the cornea moderately thick ; Descemet's membrane was clear, without folds. The pupils were not in the centre of the iris. The ciliary ligaments were broad : the ciliary bodies not quite circular : the ciliary processes were normal ; the *corona ciliaris* was imperfect. The retina, rather thick, presented on its inner surface a great number of projections, some round, others long, which collapsed on being pricked with a cataract needle, and some gave exit to a clear glutinous fluid. The central vessels were normally developed on the retina and vitreous body. The yellow spot and the fold were largely developed. The crystalline lenses were rather oblong, but of normal colour, and quite transparent. Between the capsule and the edge of the lens there was, in one eye, a yellow clear ring, apparently formed by the *liquor Morgagni* ; this disappeared when the capsule was opened. Somewhat off the centre of the lens were found the white, opaque, pyramidal bodies, which were very easily detached. These bodies resembled mushrooms, pointed at the top. Where each had lain on the lens, there was a slight depression ; and a deeper one in the centre, where the stem of the mushroom-like body had been inserted. At this point, the capsule of the lens was absent ; but whether from absorption, or from close union with the pyramidal bodies, could not be ascertained. The pyramids were composed of layers, some of which were thick, others thin, some clear, others darker. Under the microscope, a thin section of them appeared amorphous.

Dr. von Ammon has traced the commencement of this affection in several cases, both in the foetus and in the child after birth, as a depression in the lens, arising probably from defective development. The anterior wall of the capsule is prolonged into this depression : and the cataract is probably formed by gradual deposition from the aqueous humour.

ON SUBCONJUNCTIVAL OPHTHALMIA. BY DR. VON AMMON.

DR. VON AMMON describes an inflammation of the tissue lying between the conjunctiva and sclerotica. It is generally partial and limited, and appears in the vicinity of the internal or external rectus. It may at first escape notice, until exposure to cold, or some other cause, produces inflammation of some other part of the eye, or till the originally limited spots have increased in extent. The redness is generally dark; the conjunctiva is raised above its proper level, infiltrated with serum; and its upper layer generally forms a semitransparent spot like a small bladder. With the finger, the spot is felt to be hard; and the redness may be removed from it for some seconds by pressure. The white semitransparent spot, as the finger is removed, plainly rises. The examination gives the patient much pain. The inflamed spot is most painful during the night, and is readily aggravated by strong light, or by the use of stimulating articles of meat or drink.

More rarely, the subconjunctival ophthalmia appears in the vicinity of the upper or lower recti; and, in two cases, Dr. von Ammon has seen the whole of the tissue under the conjunctiva affected. By means of a lens, the vessels of the subconjunctival membrane can be seen through the transparent conjunctiva, distinct from those of the latter tissue, arranged in numerous coils, held together by exudation. The disease is very chronic, and has a tendency to relapse.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

No. XLVI: BEING FOR APRIL 1852.

- 1.*REMARKS ON SCROFULOUS INFLAMMATION OF THE LUNG AND PULMONARY CONDENSATION, particularly in reference to the Occasional Similarity of the accompanying Physical Signs to those of Tubercular Phthisis. By WILLIAM PEPPER, M.D.
2. ON RESPIRATION. By JOHN W. DRAPER, M.D.
- 3.*ON PLEURITIC EFFUSIONS, and on the Necessity of Paracentesis for their Removal. By HENRY J. BOWDITCH, M.D.
- 4.*EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. By W. W. MORLAND, M.D.

[The subjects referred to in this article are:—Case of Unusual Dislocation of the Hip-joint (on the ascending ramus of the ischium). Uncommon Tumour (fibro-cellular) of the Mons Veneris. Affection of Peyer's Glands in Acute Infantile Diseases. Anchylosis of the Left Thumb. Eburnation of the Cartilaginous Surfaces of the Knee-joint. *External Use of Chloroform. Polypus of the Uterus. Attempt at Self-castration by a Lunatic. Enchondroma of the Ring Finger. Spontaneous Dislocation of the Crystalline Lens in Utero: Subsequent Inflammation of the Eye. Cerebral Disease of Peculiar Nature and Severity. Microscopic Appearances in a Section of a Fossil Tooth from a species of Shark. Specimens of Cancerous Disease. Case of Croup. Fracture of the Lower End of the Radius, with other Fractures: Description of Professor Beaumont's Apparatus. Dislocation of the Hip-joint, with other injuries. Hydro-nephrosis. *Tænia Solium: Appearances of the Head of the Worm. Tumour from Submaxillary region. Strangulated Hernia: Importance of an Early Resort to the Operation, the Taxis failing. Croup: Compound Tincture of Chloroform as a Remedy. Chronic Bronchitis: Dilatation of the Bronchi. Medical Jurisprudence, etc. Gouty deposit. Croup fatal on the fourteenth day, and after the Expectoration of the Membrane. Old and Extensive Osseous Disease: Contraction of numerous Muscles and Tendons: Division of these, and amputation of the Leg. Scirrhus Tumour. Molten Lead poured into the Ear with murderous intent. Sudden Disappearance of a Tumour in the Breast.]

- 5.*CONTRIBUTIONS TO THE RATIONAL THERAPEUTICS OF ACUTE INFLAMMATION. By E. B. HASKINS, M.D.
6. THE MICROSCOPICAL AND HISTOLOGICAL RELATIONS OF ENCHONDROMA. By W. J. BURNETT, M.D.
7. SURGICAL CASES. Extraction of Foreign Bodies. By J. F. MAY, M.D.
- 8.*THE TYPHUS FEVER, as it prevailed at the Baltimore Almshouse during the Winter of 1850-51; with Clinical Observations. By JAMES WYNNE, M.D.
9. MEDICAL AND OBSTETRICAL CASES. By J. YOUNG, M.D.
 [The titles of the cases are :—Excessive Narcotism, (in a child two years old; recovery was effected by pouring cold water on the head). Poisoning by Laudanum. Uterine hæmorrhage during Pregnancy and Labour. Flooding in the early months of Pregnancy not followed by Abortion, (two cases). Discharge of Water *per vaginam* during Pregnancy. Labour, Funis round Neck of Child. Excessively short Funis.]
10. CASE OF HÆMORRHAGE FROM THE UMBILICUS AFTER THE SEPARATION OF THE PLACENTA. By W. C. BAILEY, M.D.
11. CASE OF NIGHTMARE CAUSED BY ELONGATION OF THE UVULA, and cured by the Astringents administered during an attack of Cholera. By JOHN H. RAUCH, M.D.
12. ON THE TREATMENT OF CANCER BY THE LACTATE OF IRON, taken by the Mouth, and injected into the Veins. By DANIEL BRAINARD, M.D.
13. ON THE TREATMENT OF ERYSIPELAS BY SUBCUTANEOUS INFILTRATION OF THE TISSUES. By DANIEL BRAINARD, M.D.
- 14.*HEAD OF A CHILD IN A STATE OF PUTREFACTION FROM STANGULATION, the Funis being twice tightly bound round the neck. By A. H. BIZZEN, M.D.

ON SCROFULOUS INFLAMMATION OF THE LUNG AND PULMONARY CONDENSATION. BY WILLIAM PEPPER, M.D.

DR. PEPPER has on several occasions, in examining individuals supposed to have suffered from confirmed phthisis, found the upper part of the lung indurated by chronic inflammation, interspersed here and there with a few tubercles. He is strongly disposed to believe that scrofulous inflammation frequently attacks the upper lobes of the lungs; and that the induration thus produced, when in connexion with large bronchial tubes, may give rise to physical signs simulating gurgling, pectoriloquy, and cavernous respiration. These signs often disappear in an incredibly short space of time; and in this way he would account for many of the alleged cures of confirmed phthisis with vomica,—which he believes to be a very rare occurrence. Scrofulous induration is readily removed by cod-liver oil, iodine, and other appropriate treatment. This is especially true with regard to glandular swellings of the neck or other parts, the retrocession of which has been several times observed by Dr. Pepper to be followed by physical signs of tubercular deposit; yet the speedy disappearance of these signs has led him to ascribe them rather to scrofulous enlargement of the deep-seated glands, and induration of the adjacent pulmonary tissue. It is in such cases as these, that he believes cod-liver oil to be most beneficial. In incipient phthisis, it occasionally has seemed to him even to correct or so modify the existing diathesis as to prevent the further deposition of tuberculous matter: but in no instance—though often highly useful in prolonging life, and affording time for the employment of other means—has it, in his experience, materially promoted the cicatrization of tubercular cavities.

In several cases, Dr. Pepper has known dullness on percussion beneath the clavicle to be produced by obstruction of the bronchial tubes with concrete or inspissated mucus: there is also vocal resonance and bronchial respiration,

and the corresponding part of the chest may become motionless, or even flattened or greatly depressed. This obstruction is generally met with in scrofulous subjects. The physical signs of atelectasis pulmonum are similar; and might also be mistaken for those of phthisis.

In a note to his paper, the author refers to an article published by Dr. S. T. Speer in the *Medical Gazette* for June 13, 1851, as containing views regarding scrofulous induration very similar to those which he has advanced.

ON PLEURITIC EFFUSIONS, AND THE NECESSITY OF PARACENTESIS FOR THEIR REMOVAL. BY HENRY J. BOWDITCH, M.D.

From the tone of DR. BOWDITCH's remarks, it appears that paracentesis thoracis is not in high favour in America; and when it is performed, it is generally on the old plan of dissecting down and making a permanent opening between the ribs. He relates eight cases in which he operated; of these three were materially relieved in their rational and physical signs; while none suffered more than slight inconvenience from the operation. Puncture at an early period he thinks likely to give favourable results. The instruments he employs are a trocar and canula; with a suction pump fitted to the latter.

EXTERNAL USE OF CHLOROFORM. BY DR. CHANNING.

DR. CHANNING's remarks are contained in the Reports of the Boston Society for Medical Improvement. He relates cases of spinal pain connected with uterine disturbance, neuralgia, headache, vomiting with diarrhoea, toothache, etc., in which benefit was derived from the external application of chloroform.

TÆNIA SOLIUM: APPEARANCES OF HEAD OF WORM.

BY DR. INCHES AND DR. JACKSON.

The worm was contained in the intestine of a man aged 38, who had died from enlarged liver and ascites. Before death, he had expelled a large portion. The part found after death was three inches long, and very slender. It presented the bulging club-shaped extremity, and the four oval orifices. In the centre was a minute pit, but no marked orifice, and no trace of the coronet of hooks. For the first three-fourths of an inch, there was no trace of joints.

CONTRIBUTIONS TO THE RATIONAL THERAPEUTICS OF INFLAMMATION. BY E. B. HASKINS, M.D.

From his observations on the pathology of inflammation, DR. HASKINS has been led to enunciate the following law:—

“That, whenever there is an excess of albuminous matter in the blood, and a cause acts upon the system, so producing solution or lesion of tissue as to excite an increased movement of the blood, with increase of fibrin, the organism makes use of such a time to free the vascular system of the excess of albuminous matter, and restore the blood to a normal state.”

Acute inflammation is marked by four periods: 1. The period of *primary lesion*; 2. The period of *fibrination* of the blood, and *primary reparation*; 3. The period of *defibrination* of the blood, and *secondary lesion*; 4. The period of *secondary reparation*. The first period is never attended with fever; the second and third always are. The third period often quickly succeeds the commencement of the second, and then progresses simultaneously with it. The pain is sometimes felt even before the second stage. The fourth period may or may not be attended with fever. It may consist only in the absorption, or in the further organisation of the effused lymph.

Dr. Haskins gives the following summaries of the results at which he has

arrived with regard to the remedies commonly used in the treatment of inflammation.

I. BLOOD-LETTING. (1) This may be practised with benefit in acute inflammation, at any time within the *second* and *third* periods of the disease; that is, from the commencement of the febrile action to the completion of the fibrinous effusion; but the sooner it is practised the better. (2) *After* the acme of fibrination, blood-letting should be used cautiously. (3) *After* the third period, that is, after the completion of the fibrinous effusion, if no fever exists, and the vital energies of the organism remain, moderate blood-letting may be proper to facilitate the absorption of the effused matter, and thereby hasten and complete the resolution. (4) Blood-letting will be altogether improper in the secondary fever consequent upon the secondary lesion; for then the fever is asthenic in its character. (5) The aggregate quantity of blood drawn should depend upon the probable degree of excess of the albumino-fibrinous matter. (6) The *number* of bleedings, and the *quantity* of blood drawn at each bleeding, will depend upon the *time*, in the course of the diseases of the first bleeding; the probable *rapidity* of the course of disease; and the impressibility of the system to the loss of blood. *a.* If the first bleeding be practicable early in the second period, and the course of the disease *not* rapid, or the system very impressible, the quantity of blood taken should be small, and the desired amount reached by a repetition of the process. *b.* If the course of disease be rapid, or the system very tolerant of the loss of blood, one decisive bleeding will suffice. *c.* If venesection be not practicable before the acme of fibrination, the *quantity* desired should be taken at one bleeding, to be more or less great according as the effusion is likely to be more or less grave, or the time more or less approximates the acme of fibrination. (7) In the performance of venesection in acute inflammation, the patient should lie in a *horizontal* posture, and the blood be drawn from a *moderate sized* orifice.

II. BLISTERS. (1) Blisters are *admissible* at any time within the course of inflammation, where the force and volume of the inflammatory process do not threaten dangerous lesions of vital organs. But they are not *indicated*, unless delay of the crisis involves a compromise of the subsequent health of the individual. (2) Blisters are indicated early (within the second period, or that of fibrination, etc.) in such cases as do not threaten immediate danger. (3) Blisters are contra-indicated in violent cases, that threaten dangerous lesion of vital organs, until *after* the acme of fibrination. (4) To hasten resolution, blisters are admissible in the fourth period (that of secondary reparation) provided *no fever* exists. (5) If the secondary lesion excites a fever in the fourth period, blisters are wholly inadmissible. (6) Blisters should be healed as quickly as possible; and if a continued effect is desired, it should be attained by a succession of fresh ones. (7) The *part* on which the blister is raised should depend mostly upon the comfort of the patient. (8) The amount of surface proper to be blistered at one time will depend upon many circumstances, to be determined in each particular case; remembering always that each blister is a new lesion to tax the vital force, and that the greater the size the heavier will be the tax.

III. MERCURY. The five rules laid down by Dr. Haskins for the administration of mercury, are identical with the first five regarding blisters.

IV. OPIUM. (1) Opium is admissible in acute inflammation, at any time from the commencement of the attack to the acme of the fibrination; except in such cases as do not threaten immediate death from the gravity of the secondary lesion, but endanger the future health of the constitution from a protracted crisis. (2) Opium is *indicated* in such cases as threaten immediately grave or fatal lesion, by the activity of the inflammatory process. (3) Opium is *contra-indicated* in such cases as endanger the future health of the individual by a protracted crisis; provided the activity of the inflammatory process does not threaten immediately fatal or grave lesion. (4) Opium

is inadmissible in all cases, *after* the acme of fibrination. (5) Opium may sometimes with advantage be combined with mercury, or used simultaneously with blisters, to control the energy of their therapeutic action.

THE TYPHUS FEVER, AS IT PREVAILED AT THE BALTIMORE ALMS-
HOUSE DURING THE WINTER OF 1850-51; WITH CLINICAL
OBSERVATIONS. BY JAMES WYNNE, M.D.

The fever here referred to was introduced in October 1850, by some Irish emigrants. Typhus fever had not appeared during the passage, but broke out among them after their arrival. The first Irishman attacked was sent, when convalescent, to sleep in the men's dormitory of the almshouse; and, on the eighteenth day after, an old man, who had for some time slept there, was admitted into the hospital with typhus fever. The disease is considered by DR. WYNNE to have been distinctly the typhus fever of the English, and not the typhoid fever of continental writers. He points out the following distinctions between them as they occur in America.

The typhoid fever, as described by the French writers, is not an uncommon disease in the United States, more especially in the large cities; and the identity of the affection, as it occurs in Paris and New York, cannot be questioned. The typhus fever, presenting the pathognomonic symptoms of the English writers, is, on the contrary, rarely met with as an endemic disease, although it occasionally occurs. As the two diseases are met with in America, typhoid fever is insidious and stealthy in its attack; typhus, on the contrary, is speedy and violent. Typhoid fever is usually accompanied with diarrhoea, while in typhus this symptom is generally not present. In typhoid fever an eruption occurs late in the disease, and consists of pink spots, which disappear on pressure. The eruption of typhus fever occurs on the fourth day upon the breast or abdomen, and gradually extends over the trunk, limbs, and head: it is of a dark red colour, is elevated above the surface, and does not disappear on pressure. The duration of typhoid fever is from fourteen to eighty days; that of typhus from nine to sixteen days. *Post-mortem* examination in typhoid reveals invariably an ulceration or inflammation of the glands of Peyer; in typhus they are found intact. Typhoid fever usually originates from unknown causes, and is not contagious; typhus fever is developed in the midst of filth, and is contagious. Typhoid fever prevails in America as an endemic disease; typhus fever was recently introduced from the British islands, in the emigrant ship which bore the famished peasants of Ireland from their native land to America. It is evident that the disease was either brought on board with the emigrants, or was generated in the foul atmosphere of the steerage.

HEAD OF A CHILD IN A STATE OF PUTREFACTION FROM
STRANGULATION, THE FUNIS BEING BOUND TIGHTLY
ROUND THE NECK. BY H. A. BIZZEN, M.D.

This was a case of tedious labour in a primipara. In forty-nine hours, the head was expelled; and the funis was found to be twisted twice round the neck. On partly cutting through the cord, the remainder was lacerated, and the body of the child expelled "with tremendous force". The head was in a state of putrefaction (the skin slipping when pressed on), and of a dark venous hue and offensive odour. The body was sound, and of a lively colour and appearance; the skin tough, and moderately elastic. The cord was of normal length; and the placenta about the normal size. The patient did well.

DR. BIZZEN believes that the strength of the cord, and the firmness of the placenta, were the cause of the tardy labour, by retaining the body, while the uterine contraction pressed the head down; and that after the head was dead, the body was still living, and the circulation in the cord but little interfered with.

PHILADELPHIA MEDICAL EXAMINER.

JANUARY, FEBRUARY, MARCH, AND APRIL 1852.

1. ANNUAL REPORT OF THE COMMITTEE ON PUBLIC HYGIENE, read before the Northern Medical Association of Philadelphia, November 20, 1851. By WILSON JEWELL, M.D. January.
2. STUDY OF DISEASES WITH REFERENCE TO GEOLOGY. By J. B. HIESTER, M.D. January.
3. CASE OF SPASMODIC ASTHMA. By H. A. SWASEY, M.D. January.
4. CASE OF BED-SORE, SUCCESSFULLY TREATED BY A GALVANIC CURRENT. By W. S. W. RUSCHENBERGER, M.D. January.
5. EXTRACTS FROM A LECTURE—"ON THE PRESENT POSITION IN EUROPE OF SOME OF THE MOST INTERESTING AND IMPORTANT POINTS OF MODERN SURGERY." By THOMAS D. MÜTTER, M.D. January and February.
- 6.*CASES OF SYNOVIAL ARTICULAR INFLAMMATION OF THE KNEE, treated successfully with Urate of Ammonia. By W. E. HORNER, M.D. Feb.
7. CASE OF CURIOUS CUTANEOUS DISEASE. By S. WEIR MITCHELL, M.D. February.
8. FECUNDITY OF A FREE MARTIN. By JOSEPH MOORE, Esq.
9. ON THE ORGANISING OF THE AMERICAN MEDICAL ASSOCIATION. By SAMUEL JACKSON, M.D.
- 10.*FRACTURES OF THE LOWER END OF THE RADIUS. By H. BOND, M.D.
11. CASE OF FRACTURE OF THE ANTERIOR INFERIOR SPINOUS PROCESS OF THE ILIUM. By CHARLES W. ASHBY, M.D.
12. MEDICAL TOPOGRAPHY, with Observations on the Epidemic Dysentery of Lancaster County. By D. H. AGNEW, M.D. April.
- 13.*LARYNGOTOMY SUCCESSFULLY PERFORMED IN A CASE OF FOREIGN BODY IN THE LARYNX. By G. R. MOREHOUSE, M.D. April.
14. SURGICAL CASES communicated to D. GILBERT, M.D. By N. WATSON, M.D., (Two Cases of Recovery after Dislocation of the Cervical Vertebrae; and J. G. LIGHTNER, M.D., (Case of Abdominal Tumour in a Child). April.
15. TRACHEOTOMY FOR THE RELIEF OF CROUP: Lithotomy under Etherisation: and Amputation of the Left Half of the Lower Jaw. By HENRY H. SMITH, M.D. April.
16. CASE OF POISONING FROM THE EXTERNAL APPLICATION OF THE COCCULUS INDICUS. By W. B. THOMPSON, Esq. April.
17. EPITHELIAL TUMOURS AND CANCER OF THE SKIN. By J. DA COSTA, M.D. April.
18. ANÆSTHESIA BEFORE THE PHILADELPHIA MEDICAL SOCIETY. April.

CASES OF SYNOVIAL ARTICULAR INFLAMMATION OF THE KNEE,
TREATED SUCCESSFULLY WITH URATE OF AMMONIA.

BY W. E. HORNER, M.D.

A woman, under DR. HORNER's care, suffering much pain from chronic inflammation of the knee-joint, obtained much ease from applying a plaster of human urine and clay. Dr. Horner, having learned this fact, has made experiments on a combination of guano with clay—the former varying from one half to one fourth—formed into a poultice, and applied frequently. Several cases of synovitis of the knee have been treated in this way with much success; and there are probably many cases of serous inflammation, especially puerperal peritonitis and pleurisy, in which it might be usefully resorted to. The odour, however, is likely to be an objection.

FRACTURES OF THE LOWER END OF THE RADIUS, AND THEIR
MANAGEMENT. BY H. BOND, M.D.

Dr. BOND observes that fractures of the lower end of the radius are frequently followed by deformity and stiffness. This he believes to be the result of the mode of treatment usually adopted—two long straight splints, with compresses or cushions, and bandages. The indications to be met are the following: 1. To maintain such an inclination of the hand upon the forearm as shall most effectually relieve the muscles from tension, or put them in repose. 2. To maintain the hand and fingers in such a position that, if rigidity should result, the member shall retain as many of its uses as possible. 3. To make the apparatus easy of application. 4. To make the dressing easy and comfortable, while it does not lack efficiency. Dr. Bond describes an apparatus which he has found, to some extent, to accomplish these indications.

“1. With a light board, of proper thickness, take a profile of the forearm and hand of the patient, placing the hand in its habitual inclination towards the ulnar side of the arm, and extending the profile from the elbow downwards, so that it shall reach the second joint of the fingers on the inside, when these are as much flexed as they are when the points of the thumb and fingers are brought into contact. The lower end of the board must be cut off obliquely (at an angle of fifteen or eighteen degrees) in a direction corresponding with that of a body grasped in the hand, when the hand is inclined to the ulna, as above indicated. 2. Cover the board thus prepared, by winding around it, from end to end, a narrow rolling bandage, or by cutting a piece of sheeting, of the general form of the board, but extending beyond it on every side, and fastening it either by a few stitches, drawing towards each other the overlapping edges, or glueing down those edges upon that side of the board which is to be towards the arm. 3. Prepare a block of soft, light wood, from seven-eighths to eleven-eighths of an inch thick, and from two to two and a half inches wide, according to the size of the patient's hand, and the width of the board in the palm of the hand. This block is to be carved and rounded, so as to adapt it to the form of the hand. It is to be fastened by screws or nails, so that the remote edge of it shall correspond exactly with the lower oblique end of the board. 4. Upon that part of the board not covered by the palm-block, fasten, by means of small carpet tacks, a piece of bookbinder's pasteboard, extending on each side beyond the edges of the board about an inch. If the pasteboard be very thick and stiff, make a slight incision in it along the edge of the board, in order to bend more easily the two projecting portions of it, thereby making a kind of box for the lodgment of the arm.

“This splint, or one constructed on the same principles, will act in the following manner: *First.* The form given to the board retains the hand in its habitual inclination towards the ulnar edge of the arm. *Second.* The palmar block retains the hand in its habitual inclination backwards, and it gives the fingers that moderate flexion which most relieves the muscles from tension, and likewise that position which, if stiffness should result, will reserve to the hand the power of performing very many of its most frequent and useful functions; it also contributes much to the comfort of the patient. *Third.* The object in covering the board with a strong fabric, as above described, is to retain the bandage with certainty in its place, without applying it with a dangerous tightness; the roller may be fastened to this covering with pins. *Fourth.* The pasteboard is not essentially necessary, but it will contribute to the comfort of the patient and the convenience of the surgeon.”

The splint may be lined with flannel, or other soft material; and it will be better to cover the palmar block with a separate piece, in such a way that

it can be removed without disturbing the apparatus. Two compresses will generally be required—*anterior* and *posterior*. The proper construction of the former is important; if it be deficient in thickness, there will either be a curvature forwards, or a sigmoid flexure; if it be too thick, there may—though rarely—be a curvature backwards, and the danger of adhesions will be increased.

Extension should be made from the hand (not the fingers) towards the ulnar side of the arm; and the arm must be laid in the splint, in which the palmar compress has been placed. The dorsal compress must then be applied, and a bandage over all. It will not be necessary, if the compresses have been properly made and adjusted, to apply the bandage so tight as when the common straight splints are used. A dorsal splint will be necessary when the fracture is so high up as to induce danger of diminishing the interosseous space; it should be so wide that the bandage may not press so on the fragments as to lessen the space; and it should reach from near the elbow to the hand.

LARYNGOTOMY SUCCESSFULLY PERFORMED IN A CASE OF FOREIGN BODY IN THE LARYNX. BY G. R. MOREHOUSE, M.D.

The patient was a little girl, aged 10 years, who drew into her larynx a piece of almond-shell which she was holding in her mouth. On the day following the accident, the dyspnœa had become so alarming, that tracheotomy was performed; and this operation was attended with instant relief. The physical signs and symptoms being pointed to the ventricles of the larynx as the seat of the foreign body, an examination was made for it; but effusion in the submucous tissue had taken place to such an extent, that it was impossible to introduce an instrument into the rima glottidis. It was therefore determined to open the larynx, which was done on the following morning. The thyroid cartilage having been divided, and pressed asunder, the piece of shell was removed from the left ventricle by means of polypus forceps. The incisions were entirely healed on the fourteenth day after the operation; and the child's voice was clear, but rather husky towards the evening, especially if she talked much during the day.

REPORTS OF SOCIETIES.

PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

THE TWENTIETH ANNIVERSARY was held at Oxford, on Wednesday the 21st, and Thursday the 22nd July. The meetings took place in the Convocation House of the University. The attendance was very numerous. The following is a list of those members who were present, so far as we could ascertain the names. The Presidents of the Colleges of Physicians and Surgeons of London, the Vice-Chancellor of the University of Oxford, and many other visitors, honoured the meetings with their presence.

ABERGAVENNY: F. C. Batt, Esq.
 AMPHILL: A. Hamilton, Esq.
 BANBURY: A. B. Rye, Esq.
 BATH: J. S. Bartrum, Esq.; John Ormond, Esq.; James Tunstall, M.D.
 BEDFORD: T. H. Barker, M.D.
 BENARH, CONWAY: J. Edwards, M.D.
 BIRMINGHAM: Bell Fletcher, M.D.
 BOURNEMOUTH (Hants): E. V. Mainwaring, M.D.
 BRACKLEY: R. Jones, Esq.
 BRIGHTON: G. S. Jenks, M.D.
 BRISTOL: William Budd, M.D.; Crosby Leonard, Esq.; E. S. Mayor, Esq.; Augustin Prichard, Esq.
 BURY ST. EDMUNDS: T. G. Hake, M.D.
 CAMBRIDGE: H. J. H. Bond, M.D.; G. M. Humphry, Esq.
 CARSHALTON (Surrey): Edw. Wallace, Esq.
 CASTLE CARY (Somerset): C. C. Wallis, Esq.
 CHELTENHAM: W. P. Brookes, M.D.; Augustus Eves, M.D.; H. W. Rumsey, Esq.; Thomas Smith, M.D.
 CHICHESTER: J. McCarogher, M.D.
 CHILCOMPTON: Farnham Flower, Esq.
 CHIPPENHAM: William Colborne, Esq.
 CHISWICK: H. Tuke, M.D.
 CLIFTON (Gloucestershire): J. Lancaster, Esq.; T. L. Surrage, Esq.; W. C. Trotman, M.D.
 COLCHESTER: G. B. Clark, Esq.
 COVENTRY: Henry Powell, M.D.
 CRANFIELD (Beds.): G. K. Paxon, Esq.
 CROYDON: George Bottomley, Esq.
 CURRY RIVEL (Somersetshire): W. W. Monckton, Esq.
 DERBY: J. Hutchinson, M.D.
 DEVIZES: John Thurnam, M.D.
 DEVONPORT: P. W. Swain, Esq.
 DORCHESTER: G. Curme, Esq.
 DULVERTON (Somerset): C. P. Collyns, Esq.
 DULWICH: E. Ray, Esq.
 ENFIELD (Middlesex): Edgar Sheppard, Esq.

EXETER: William Clapp, Esq.; J. W. Harris, Esq.; J. H. James, Esq.; P. Miller, M.D.; T. Shapter, M.D.
 FARNHAM: William Newnham, Esq.
 GLOUCESTER: W. W. Williams, M.D.
 GREAT GRIMSBY: Thomas Bell, Esq.
 GUILDFORD: J. Steadman, Esq.
 HADLEY (Middlesex): C. T. Carter, Esq.
 HAMMERSMITH: J. Bowling, Esq.
 HANWELL: John Conolly, M.D.
 HASTINGS: W. A. Greenhill, M.D.
 HILLINGDON: Arthur Stilwell, M.D.
 HULL: R. Hardy, M.D.; H. Cooper, M.D.
 HURSTPIERPOINT: H. M. Holman, M.D.
 IPSWICH: B. Chevallier, M.D.
 KEMPSEY (Worcesters.): W. T. White, Esq.
 KINGSBRIDGE (Devon): John Elliot, Esq.
 LANGPORT (Somersetshire): J. Pranker, Esq.
 LEEDS: Charles Chadwick, M.D.; Wm. Hey, Esq.; Thomas Nunneley, Esq.
 LEICESTER: John Barclay, M.D.; Thos. Paget, Esq.
 LIVERPOOL: W. H. Duncan, M.D.; Ellis Jones, Esq.; J. Turnbull, M.D.
 LONDON: A. W. Barclay, M.D.; George Burrows, M.D.; John Churchill, Esq.; John Rose Cormack, M.D. (Putney); Samuel Hare, Esq.; G. W. Hastings, Esq.; Caesar Hawkins, Esq.; Thomas Hodgkin, M.D.; J. Hodgson, Esq.; Thomas Hunt, Esq.; Thomas Lightfoot, M.D.; C. F. J. Lord, Esq. (Hampstead); J. A. Paris, M.D.; John Propert, Esq.; Francis Sibson, M.D.; John Flint South, Esq.; Theophilus Thompson, M.D.; Joseph Toynbee, Esq.; R. N. Trew, Esq. (Stepney); T. Ogier Ward, M.D.; Forbes Winslow, M.D.
 LYNN (Norfolk): John Whiting, M.D.
 MAIDSTONE: Alexander Henry, M.D.
 MANCHESTER: C. W. Bell, M.D.; Samuel Crompton, Esq.; Thomas Mellor, Esq.; Thomas Radford, M.D.; M. Eason Wilkinson, M.D.

- MELTON (Suffolk): J. Kirkman, M.D.
 NEWPORT PAGNELL: Edward Daniell, Esq.
 NORTHAMPTON: J. W. C. Faircloth, Esq.; James Mash, Esq.; A. Robertson, M.D.
 NORWICH: W. H. Ranking, M.D.
 NOTTINGHAM: J. Higginbottom, Esq.; G. M. White, Esq.; J. C. Williams, M.D.
 OSWESTRY: Peplow Cartwright, Esq.
 OXFORD: H. W. Acland, M.D.; R. Giles, M.D.; R. J. Hansard, Esq.; J. T. Hester, Esq.; E. L. Hussey, Esq.; J. Martin, Esq.; J. A. Ogle, M.D. (PRESIDENT); E. R. Owen, Esq.; F. Symonds, Esq.; F. T. Wintle, M.D.
 PHILADELPHIA: J. F. Lamb, M.D.
 PLYMOUTH: J. C. Cookworthy, M.D.
 PONTESBURY (Salop): William Eddowes, Esq.
 PRESTEIGN (Radnorshire): A. W. Davis, M.D.
 READING: Charles Cowan, M.D.; George May, Esq.; T. L. Walford, Esq.; R. T. Woodhouse, M.D.; T. S. Workman, Esq.
 REIGATE: Peter Martin, Esq.
 RUGBY: James Paxton, M.D.
 ST. ASAPH: Owen Roberts, M.D.
 SALFORD: G. Southam, Esq.
 SOUTHWOLD (Suffolk): Robert Wake, M.D.
 STALBRIDGE (Dorset): E. H. Ambler, Esq.; R. Fookes, Esq.
 STOCKPORT: G. Downes, Esq.; G. Turner, M.D.
 STRATFORD ON-AVON: D. Rice, Esq.
 SWANSEA: Edward Howell, M.D.; W. H. Michael, Esq.
 TAUNTON: H. Alford, Esq.; R. Burridge, M.D.; C. H. Cornish, Esq.; F. H. Woodforde, M.D.
 THRAPSTON: J. G. Leete, Esq.
 TORQUAY: J. J. Field, M.D.; C. Radclyffe Hall, M.D.; C. B. Nankivell, M.D.
 TUNBRIDGE WELLS: Richard Turner, Esq.
 UXBRIDGE: James Stilwell, Esq.
 WALTON (near Ipswich): J. Grimwood, Esq.
 WANDSWORTH: H. W. Diamond, M.D.
 WANTAGE: Walter Barker, Esq.
 WARMINSTER (Wilts): P. Grubb, Esq.
 WARRINGTON: J. Sharp, Esq.
 WATERINGBURY (Kent): H. M. Gould, Esq.
 WELLINGBOROUGH: Thomas Clark, Esq.
 WELLS (Norfolk): James Young, Esq.
 WESTON-SUPER-MARE: J. H. Pring, M.D.
 WINCHESTER: Charles Mayo, Esq.; Charles Mayo, junr., Esq.; James Mayo, Esq.
 WINSLOW (Bucks): G. Cowley, Esq.
 WOBURN (Bedfordshire): R. Veasey, Esq.
 WOOLTON (near Liverpool): J. A. Pearson, Esq.
 WORCESTER: F. N. Gosling, Esq.; Sir Charles Hastings, M.D.; James Nash, M.D.; James P. Sheppard, Esq.; J. H. Walsh, Esq.
 YALDING (Kent): C. A. Pout, Esq.
 YORK: W. D. Husband, Esq.; W. Mat-
 terson, jun., Esq.

FIRST DAY, WEDNESDAY JULY 21, 1852.

At 10 o'clock, DR. JENKS of Brighton took the chair, and after a suitable address he resigned it to his successor, DR. OGLE, Regius Professor of Medicine in the University of Oxford.

DR. OGLE'S ADDRESS. DR. OGLE commenced by acknowledging the honour paid to him in being elected President of the Association, an honour which he chiefly attributed to his years and to his academic position.

He was an opponent of all unnecessary impediments to the acquirement of professional privilege; and was an advocate, in regard to medical discipline, of the freest policy consistent with the nature of our institutions, and conducive to our common welfare. But still, we must bear in mind that, as long as the Author of every blessing distributes talents and opportunities in unequal proportions, so long will inequalities exist, which it is neither practicable nor desirable to efface.

He believed it hopeless to effect permanently satisfactory arrangements in medical reform, till the statutes of our academic institutions have been revised, and their proceedings brought more into unison and parallelism with each other, and with the times in which we live. How could equal respect be challenged for distinctions which have been obtained at one university merely on the payment of a sum of money, and at another only after study for several years, and a stringent examination?

The cost of education in Oxford is not simply a very serious drawback on

the usefulness of the University, but also a palpable wrong to the community. Dr. Ogle had some time ago submitted to Her Majesty's Commissioners of the University of Oxford measures for diminishing such grievances, and for extending the usefulness of the University; and their report, lately submitted, would shew him (he said) to be entitled to claim credit for sincerity in the declarations which he now made. And it was further satisfactory to state, that many members of the academic body agreed with him in his views.

Dr. Ogle then gave an explanation of the statutes of the University of Oxford relative to degrees in medicine. Candidates for the degree of Bachelor of Medicine must reside, and undergo all examinations as in arts; the period comprehending four years or sixteen terms, during twelve of which they must have been actually resident. After this, the candidate must study medicine diligently during three entire years, attending lectures on the medical sciences, and on the practice of some hospital "*melioris notæ*", of large accommodation. But it has not been deemed advisable to require a further stay in Oxford, but he has been encouraged rather to go to the metropolitan or large provincial schools. On testimony that the candidate has so far complied with the requisitions of the statute, an examination is held, to which all graduates of the University, and all legally qualified practitioners, are admitted. The examination is in anatomy and physiology, pathology and therapeutics, with chemistry and botany so far as they relate to medicine. Besides this, the candidate is expected to prove his acquaintance with the writings of Hippocrates, Aretæus, Galen, and Celsus. By tacit understanding, however, the examination is limited to the works of Celsus, the Aphorisms and Epidemics of Hippocrates, those parts of the works of Aretæus which relate to the signs of acute and chronic diseases, and the works of Galen on the Uses of the Body. The examiners are the Regius Professor of Medicine in the University of Oxford, and two assessors, nominated by the Vice-Chancellor, and approved by Convocation. At present, all three examiners are Fellows of the College of Physicians in London. On approval, the candidate is admitted to the degree of M.B.; and after a farther interval of three years, making ten years from his matriculation, on the ground of matured experience, and on producing satisfactory testimony of moral character, he is admitted to the degree of Doctor of Medicine. The statutes have been in force seventeen years; and, while apparently unobjectionable in theory, they have been found successful in practice. Most of the graduates have presented themselves to the College of Physicians in London, and in no case has the judgment of the University been reversed.

Dr. Ogle then passed a well merited eulogy on the late Dr. Kidd, to whom the Association was indebted for meeting in Oxford; and whose character as a man, as a Regius Professor in the University, and as a Christian, commanded deep respect.

Dr. Ogle concluded by alluding to the honour which the University was anxious to confer upon the Association upon this occasion, by giving to three of its members the honorary degree of D.C.L. Three distinguished members had been selected: viz., Sir Charles Hastings, M.D., Knight; Dr. John Forbes; and Dr. John Conolly.

MR. SHEPPARD, Secretary of the Association, then read the Report of the Council, of which the following is the substance:—

ALTERATION OF THE LOCALITY IN WHICH THE ASSOCIATION ASSEMBLED. Manchester was fixed upon at the Brighton Meeting for receiving the Association in 1852; but soon after the last anniversary, the President of the Council received a letter from Dr. Kidd, warmly expressive of his gratification at the advancement of the Association, and inquiring, as he had arrived at an advanced period of life, whether by any means it could be arranged so that the Anniversary for 1852 might be held at Oxford instead of at Manchester. Under any circumstances an application coming from such a party,

and enforced by such considerations, would have demanded the deliberation of the Council; but unexpected difficulties had been encountered in carrying out the arrangements at Manchester, and this induced the Central Council to communicate to the Manchester Council the strong desire which Dr. Kidd had expressed to receive the Association at Oxford. The Manchester Council recommended that the request of the Regius Professor of Medicine should be granted. The President of the Council, after this, lost no time in addressing Dr. Kidd, who at once negotiated with the Vice-Chancellor of the University, who promised his aid in receiving the Association with due honour. Dr. Kidd also named Dr. Ogle, as peculiarly fitted to undertake the office of President-elect, which office, on account of advanced years, he himself did not feel equal to. The negotiations for a meeting at Oxford, under the auspices of Dr. Kidd, were scarcely brought to a close, when suddenly he was removed from the scene of his earthly labours. For some time it was doubtful what course should be pursued, but as Dr. Ogle had been recommended as the President-elect, and as the profession in Oxford were still willing to do their best for the reception of the Association under the loss they had sustained, and, moreover, as the Manchester Council were still of opinion that it was desirable to defer the meeting at Manchester, it was determined to hold this Anniversary in Oxford.

NUMBER OF MEMBERS AND DISTRICT BRANCHES. The number of members who had died during the year was 20, and the number who had resigned was 40. The number of new members admitted since the Brighton Anniversary was 183, and the number upon the list amounted to 1625. Since the last General Meeting, two District Branches have been added to those before existing: one was called the Midland Branch, including Derby, Nottingham, Leicester, and Lincoln; the other, the South Wales and Monmouthshire Branch, including Swansea, and the chief towns in South Wales, together with Monmouth.

The total receipts for the past year had amounted to £1,638 : 18 : 8½; the expenditure was £1,546 : 4 : 7; leaving a balance in favour of the Association of £92 : 14 : 1½.

PUBLICATIONS—PRIZE REPORTS. The Council had out of their own fund, which was instituted for the purpose of encouraging reports from Provincial Hospitals and Infirmarys, offered two Prizes of Twenty Guineas each, for the best series of Medical and Surgical Reports sent for publication in the *Journal* between October 1851, and October 1852. Many valuable reports had been sent in, and there was reason to expect this department of the *Journal* would receive many important contributions. The Council believed that the *Journal* had improved under the present editors. The Council had, during the present year, received suggestions pointing to some alterations in the publications. This question could not with advantage be discussed in a general meeting of the members; and the most judicious course seemed to be, to appoint a Committee of Associates to take into consideration any suggestions that might be made for improving the publications, and the Editorship. This Committee might either report at this Anniversary, or to the Central Council, and, in conjunction with them, be empowered to carry out plan.

MEDICAL REFORM. The New Charter which had been granted to the Royal College of Surgeons of England was a great improvement on the charter of 1843; and although it did not contain all the provisions for which this Association had contended, yet it firmly established the representative system in the constitution of the governing bodies of the profession, and thus had given satisfaction to a large body of the members of the Association.

The draft of a new Charter that had been submitted to the Secretary of State by the College of Physicians was conceived in a liberal spirit; and although the Council could not commit themselves to all its details, yet they

had no hesitation in stating that, should this Charter be granted to the College of Physicians, it would very materially improve the medical polity of the kingdom.

Seeing the probability that the College of Physicians and College of Surgeons would ere long obtain new Charters, the Council had been anxiously endeavouring to submit to the legislature a comprehensive measure, which might settle on liberal principles the medical polity of the profession. Being assured by Sir George Grey, the late Home Secretary, that he would give a favourable consideration to any Bill for improving the medical profession which should receive general support, a Committee was formed of members of the Association at the latter end of last year, whose object was to frame a Bill in conformity with the principles so long advocated by the Association. This attempt was so far successful, that in the early part of this year the Draft Bill was submitted to the Central Council, who, after a careful consideration of its clauses, were of opinion that it fairly represented the opinions so long promulgated and so undeviatingly maintained by this Association in their memorials to the Secretary of State and in their petitions to the Houses of Parliament. They therefore resolved upon taking the opinion of the members at large on this Draft Bill, and in order to do so, they requested the District Branches to meet and to consider its provisions. Meetings of most of the Branches were consequently summoned, and the result had been that the Bill has been enthusiastically received by the great body of the profession in the provinces, and a very considerable majority had declared themselves in favour of an attempt to pass it through Parliament. Nor had the opinion in favour of the bill been confined to the members of the Association; many Societies not connected with this body had met, and had passed unanimous resolutions in favour of the Bill. So that this Association had at length succeeded in framing a Bill in accordance with the feelings and wishes of a large majority of the profession in the provinces. Had Sir George Grey remained in office, he might have passed the Bill during the present session of Parliament. It was, however, satisfactory to state, that Mr. Walpole, the present Home Secretary, had expressed his readiness to give his attention to the Bill, so soon as the state of public affairs will permit him to do so.

In the present state of affairs, the Council considered the better course to pursue would be for the Association, at this Anniversary Meeting, to come to some general resolution approving of the Bill, and then to refer it to a Committee, empowered to negotiate with the Government, and with the Medical Corporations, and to make such modifications as circumstances call for. As expenses were likely to be incurred in prosecuting this matter, the Committee should be allowed a sum not exceeding £200.

The adoption of the report having been moved and seconded,

DR. COOKWORTHY (of Plymouth) took exception to the report of the Council, as containing expressions regarding the proposed charter of the College of Physicians, which he could not concur in. He concluded by moving the following paragraphs as addenda to the report: "That this Association, fully admitting the propriety of uniting under the dominion of the Royal College of Physicians in London, all physicians, graduates of universities, practising in England and Wales, and acknowledging the liberality of the proposed charter, are notwithstanding of opinion that the fees therein named to be paid on admission are unnecessarily large. The Association would also urge upon the College, that their own extra-licentiates should be admitted members without further payment: that many of the provincial physicians, being fellows of the Royal College of Edinburgh, should be admitted *ad eundem* on the payment of a small fee for registration only: and that graduates of British universities, actually practising as physicians, should also be admitted to become members of the Royal College of Physicians, on payment of a smaller sum than that at present named in the draft-charter, they having already paid a stamp duty on taking out

their degrees. The Association would also suggest, that the graduates to be thus admitted members of the Royal College of Physicians should take order according to the date of their respective degrees."

Dr. TUNSTALL (of Bath) seconded the motion.

This gave rise to a discussion, in which Sir Charles Hastings and Dr. Forbes urged Dr. Cookworthy to allow the report to be adopted, and then to put his paragraphs as a substantive motion.

Dr. HEYGATE (of Derby) supported Dr. Cookworthy.

Dr. CORMACK (of Putney) had no difference of opinion with Dr. Cookworthy; but he altogether disapproved of debating such important questions upon the reading of the Council's report; and he still more disapproved of the meeting being asked in its first hours "to adopt" a report which contained a vote of money, and a decided expression of feeling, regarding which there was notoriously a diversity of opinion. He hoped that Dr. Cookworthy, to save time, would withdraw his amendment, and that he and the meeting would allow him (Dr. Cormack) to propose, as an amendment to the motion for "adopting" the report, "that it be received."

Dr. FORBES (of London) seconded the amendment, upon the ground of simplifying the proceeding and saving time.

The amendment was carried.

On the motion of Mr. NUNNELEY (of Leeds), a Committee was appointed to consider and report, on the following day, to the Association, upon the proposed *status* and on privileges of physicians practising in England, who are not members of the Royal College of Physicians of London, as well as regarding the position of the extra-licentiates of that body: the Committee to consist of Dr. Cookworthy, Dr. Tunstall, Dr. Cormack, Dr. Forbes, Dr. R. Hall, Dr. Robertson, Dr. Hake, and Dr. Conolly; and to present the report to the Association on the following morning.

Learned the noise of members talking to each other (as we afterwards learned), the report was "adopted, and ordered to be printed."

DR. COWAN'S PROPOSED CHANGES IN THE MANAGEMENT OF THE JOURNAL.

Dr. COWAN, in a long and eloquent speech (which was warmly cheered), brought forward his motion, which for some time past has been a source of excitement and interest throughout all the Branch meetings. The motion was, that the *Provincial Medical and Surgical Journal* be edited and published in London: and that it be issued weekly, instead of fortnightly. He said that he had no personal object to serve in advocating the changes which he wished to see carried out: at least no greater personal object than that which belonged to him as an individual fraction of the body which he wished to benefit. He had no wish to impugn the talents or speak lightly of the labours of the present editors of the *Journal*; but he earnestly desired to bring a bad system to an end, and commence a plan which would add to the numbers, increase the influence, and perpetuate the existence of the Association.

The *Journal* had never yet been an effective or influential organ of the Association: members preferred sending their papers to the *Lancet* or the *London Journal of Medicine*. It had no weight with the profession, and for copies sold during last year, the trifling sum of £21 had only been received. The *Journal* ought to remain as at present the organ of official announcements; but there must be no division of responsibility between editors distant from each other, and no shackling of the editors in literary matters by the Council or by any one. The editor must be worthy of being trusted; he must be trusted, and left to do his best. The Association had the means of publishing a weekly journal, not perhaps as large, but upon the whole equal, and even superior, to any now existing; and if so, why not do it? One objection to his proposal might be, that by the change they would lose their provinciality; but he contended that it would have a contrary effect, and would moreover strengthen their hands; for they

did not wish to exclude their metropolitan brethren, if these desired to unite with them. The interests and objects of the Association are not selfish or exclusive: they are the interests and objects of the whole profession. Dr. Cowan then proved the financial possibility of carrying out his plan, and entered into a detail of facts establishing the intensity of the prevailing dissatisfaction; and pointing out that the secessions were most serious, and that the numbers were only maintained as high as they were by the migratory character of the body, and the excitement of the anniversary meetings: these, he said, were the chief causes of new members joining. And why? No inducement can be offered to those gentlemen to join who could not attend the annual meetings; but give the profession a first-rate weekly journal, and in place of having to *ask* persons to become members, the mere selfish principle would make medical practitioners seek to be elected members of the Association. In place of our hundreds we should soon have our thousands.

Dr. Cowan concluded by moving "that the Journal be issued weekly, and edited in London."

Dr. WOODHOUSE (of Reading) seconded the motion.

Dr. ROBERTSON (of Northampton) had listened with pleasure to much of what Dr. Cowan had said; but could not consent to what he proposed. The experiment of publishing the Journal in London had been tried on a previous occasion, and with very indifferent success. He believed that the real difficulty, as regarded the Journal, was in the great competition which it had to encounter from publications of a similar character. By publishing the Journal in London, it would lose the constant superintendence of the Council of the Association, and particularly of Sir Charles Hastings. If all would do their duty, we should have a much better Journal; but he did not see that the mere atmosphere of London would infuse additional efficacy. He was quite satisfied with the Journal, and did not take in any other. He hoped that the motion might be rejected as one full of danger. If carried, the Association could no longer be called the *Provincial* Association.

Dr. HEYGATE (of Derby) concurred with Dr. Robertson, and earnestly dissuaded the Association from adopting the motion.

Dr. EDWARDS (late of Chester) of Benarth Conway, spoke strongly in favour of the motion, and brought forward the evidence of members of the profession in his district confirmatory of the opinion expressed by Dr. Cowan as to the low estimation in which the *Journal* was held, and the greater readiness with which members sent their papers to the *London Journal* and other journals. Ask an author to send his papers to our *Journal*, and he will tell you that few cut its leaves, and that he did not wish to place his writings in such a catacomb. (*Laughter.*) Ask a friend to join the Association, and he will tell you that as he can rarely if ever attend the meetings, he has no *quid pro quo* for his subscription. He maintained that a well-conducted journal was essential for the present and future welfare of the Association, and that unless this were speedily secured, the very existence of the Association was jeopardised.

An animated and occasionally irregular discussion took place, which we do not think it necessary to report, as the chief points referred to were matters of numbers and finance. SIR CHARLES HASTINGS and others wished a free Committee to be formed, to consider the question in all its bearings: others energetically objected to such a proceeding as a shelving of the question, which they said had been sufficiently agitated. MR. WALSH (of Worcester), one of the editors, while he avoided speaking of the management of the Journal, impugned the accuracy of Dr. Cowan's plan, and asserted that there was not money enough to accomplish what Dr. Cowan proposed. He thought Dr. Cowan's scheme based on financial fallacies, and he challenged him to give his data more precisely, and to state by what means he intended to carry it out. He knew that the Journal could be

much improved ; but he did not think that the way to proceed was that advocated by Dr. Cowan. DR. RANKING, the other editor (after stating that, like all editors, he was thick-skinned), defended the Journal. As to the leaves being uncut, the same might be frequently said of all other journals, as in the book society to which he belonged there was no journal which did not often reach him in that predicament. (*Hear, Hear.*) He added, in a jocular tone, that he had even seen a copy of Dr. Cowan's translation of Louis On *Phthisis* with the leaves uncut. (*Laughter, and cries of oh ! oh !*)

MR. NUNNELEY (of Leeds) thought that the Journal required much improvement, but he did not wish great changes to be rashly carried ; and with a view of leaving open the exact nature of the changes required, he proposed as an amendment to Dr. Cowan's motion—

That a Committee be appointed to consider the best means of increasing the efficiency of the Journal of the Association, with full powers to carry out changes (should changes be necessary) in January 1853 ; and that the following gentlemen do constitute that Committee, viz. : —We were not able to catch all the names, but the list read embraced about fifteen, among whom were Sir Charles Hastings, Dr. Ogle, Dr. Forbes, Dr. Tunstall, Dr. Edwards, Dr. Greenhill, and Dr. Cowan, etc.

DR. ROBERTSON seconded the amendment.

MR. LORD (of Hampstead) considered the Journal to be “stale, flat, and unprofitable”: and not one half the members ever took the trouble to read it, or even to cut the leaves. He called upon the meeting at once to adjudicate upon the motion which had been so eloquently advocated by Dr. Cowan.

MR. CROMPTON (of Manchester) supported the motion ; and reminded them that if they had adopted the suggestion he made in 1839, they would not be placed in their present position with reference to the Journal. The profession in the north of England were almost unanimously of opinion that it was a very unsatisfactory publication.

A MEMBER remarked, that in consequence of the alteration in the prospects of the agriculturists, members of the profession living in those districts could not afford to take the Journal, the *Lancet*, or any medical publication. (*Laughter.*) He knew that, in Norfolk and Suffolk, some had ceased to take in publications, being obliged to save every guinea ; he thought this was one reason why the subscribers to the Journal had fallen off. (*No, no.*)

DR. COWAN was resolved to press his motion to a division ; but, before doing so, he claimed the right of reply. He answered Mr. Walsh's objections, and said that he had not spoken at random, but from a printer's estimates, and the most sober data. He was quite ready to submit the minutest details of his plan to a Committee ; but he would not like to see a Committee appointed till the great principles involved in his motion had been agreed to. Former committees had only shelved the question, and postponed the solution of a question, which, to many, was both disagreeable and difficult. To him (Dr. Cowan) it was neither ; for he did not consider that the question ought to be allowed to have any personal bearings—in his mind it had none—and in the accuracy of his data he had the most perfect confidence.

At this stage a scene of great excitement followed, which was not terminated even by the division. Before the vote was taken, a large body of members left the Convocation House. The remainder divided, when it was found that there were for

Dr. Cowan's motion	... ..	61
Mr. Nunneley's amendment	... ..	59
Majority for Dr. Cowan	... ..	—2

When the vote was announced, both sides seemed equally surprised at the result.

DR. RANKING said, “If the Journal be ‘effete’, as some have said, I think it ought at once to be discontinued. At all events, I resign my office of joint-editor.”

MR. WALSH. If he consulted his own feelings, he would adopt the same course as Dr. Ranking; but a sense of duty, and a real desire for the welfare of the Association, induced him to offer to continue his services, so long as they were wanted. (*Loud cheers.*)

DR. COWAN. My motion does not point to any change till January 1853.

With the consent of both sides, a Committee was then appointed, with power to carry out Dr. Cowan's plan in January 1853.

MR. NUNNELEY (on the ground of a small committee working better) excused himself from acting on the Committee, as did others on his original list; but at last the following gentlemen were appointed, on the motion of Dr. Cowan, seconded by Dr. Edwards:—Dr. Cowan (Reading), Mr. Crompton (Manchester), Dr. Forbes (London), Dr. Edwards (Benarth), Dr. Greenhill (Hastings), Mr. Hunt (London), and Dr. Webster (Dulwich).

REPORT ON THE PROPERTY AND INCOME TAX AS AFFECTING THE MEDICAL PROFESSION. DR. THOMAS SMITH (of Cheltenham) read the following report:—The Committee, appointed at the last anniversary to devise means for relieving the medical profession from their unequal share of the present Property and Income Tax, beg to report that they have lost no opportunity of bringing the subject before her Majesty's government and influential members of parliament. The recent political changes have, however, prevented their exertions from producing as yet any practical result.

They have the authority of Mr. Hume, chairman of the Income Tax Committee of the House of Commons, for stating that, from the information which he has obtained, there can be no difficulty in adopting a more just mode of rating professional incomes. Owing to the immense amount of business before the Chancellor of the Exchequer, and to the ascertained fact that he was determined to recommend the continuance of the Income Tax in its present form for another year, your Committee have not sought a conference with him. The number of witnesses which have been already heard against the measure before the Income Tax Committee of the House of Commons, have hitherto prevented your Committee from tendering their evidence; but, upon the assembling of the new parliament, they expect to appear before a committee, to be appointed for completing the inquiry. From the amount of gross injustice which this impost has been proved to have produced, your Committee entertain a strong hope that it will, in the next session of parliament, either be materially modified or totally repealed; but still, they earnestly urge upon every medical practitioner, the necessity of treating this question, not as a general, but as an individual one. Your Committee would suggest to the members of the Association the propriety of petitioning both houses of the legislature against the continuance of this impost; and they would, moreover, advise this meeting, and also the local Branches, to nominate gentlemen to wait upon the individual members of the House of Commons, resident within their district. Should these suggestions be carried out with energy and spirit, your Committee confidently believe that before next anniversary this odious, inquisitorial, and unjust tax, shall be expunged from the statute book.

REPORT OF THE COMMITTEE ON IRREGULAR PRACTICE. DR. CORMACK congratulated the Association upon the very different and the more cheering aspect which homœopathy now assumed, from that which it possessed when he addressed the Association upon the subject at Brighton. Then, some respectable physicians and surgeons were known to be in the habit of holding professional intercourse with homœopathic practitioners; now, such grave misconduct was unknown among us; and it was universally admitted that, for any one to hold medical consultations with persons with whom he had no community of principles, and with whom therefore he could not co-operate, was worse than a sham, and was in truth obtaining fees by a swindling pretence of doing something which could not be done.

Soon after the Brighton meeting a cry of agony went forth from the homœopathic camp, persecution was spoken of in a piteous way, and he (Dr. Cormack) and his colleagues were assailed with gross personal slanders. These were cheering symptoms; they were prophetic of what soon followed—a total separation of homœopathic practitioners from the ranks of legitimate medicine. However, let it be kept in mind that our main object was not to denounce a system of quackery, but to preserve our own purity. It was in this spirit that the Brighton resolutions were conceived and carried: it was in the same spirit that the following report was framed.

The following is a copy of the report:—

“The Committee on Irregular Practice have attentively considered the subject confided to them by the anniversary meeting of the Association, held in Brighton in August last.

“In consequence of the limits assigned to the Committee, they have not considered themselves authorised to enter upon any of the other forms of Irregular Practice, although they regard them, equally with Homœopathy, as opposed to the sense of the profession.

“The Committee have endeavoured to frame the bye-laws which they now propose for adoption, in such a way, as, on the one hand, to maintain a high tone of professional honour in the Association; and, on the other, to guard against the risk of accused parties being expelled upon insufficient evidence, or so long as there is ground to believe that they have repented of their conduct, and are prepared to promise not to repeat it.

“The following is a draught of the bye-laws, which the Committee request the Central Council to submit to the consideration of the anniversary meeting, to be held at Oxford:—

“1. Candidates for admission to the Provincial Medical and Surgical Association, shall be required to state, in writing, to the members proposing them, that they neither are, nor intend to become, professors or practitioners of Homœopathy.

“2. That when any member is convicted by the Central Council, or by any of the Local Councils, of publicly professing Homœopathy, of practising Homœopathy, or of holding professional intercourse with a Homœopathic professor or practitioner, this conviction, along with the necessary proofs of its justice, shall be officially reported by the Secretary of the Central Council, or by the Secretary of any of the Local Councils, to the next ensuing anniversary meeting of the Association; that it shall then be competent for the meeting, provided there be a concurring majority of two-thirds of those present, to direct the president in the chair to erase the name of such convicted member at once from the roll of members; but that it shall likewise be competent for the meeting, by a simple majority, either honourably to acquit the accused, or to accept from him, in entire satisfaction for his conduct, an expression of regret, and a promise not to repeat it, or to postpone final judgment till the next anniversary meeting.

JOHN ROSE CORMACK, M.D. (*London.*)

CHARLES COWAN, M.D. (*Reading.*)

CHARLES HASTINGS, M.D. (*Worcester.*)

JONAS MALDEN, M.D. (*Worcester.*)

W. H. RANKING, M.D. (*Norwich.*)

JAMES TUNSTALL, M.D. (*Bath.*)

C. J. B. WILLIAMS, M.D. (*London.*)”

CEREMONY OF CONFERRING THE DEGREE OF D.C.L. IN THE THEATRE OF THE UNIVERSITY. During an adjournment of the Association, a Convocation was held in the Theatre, when the honorary degree of D.C.L. was conferred upon Sir Charles Hastings, Dr. John Forbes, and Dr. John Conolly.

The sable costume of the members of the Association, the lively colours of two hundred elegantly dressed ladies, and the glaring red gowns of the doctors of the University, produced as striking and as curious a *coup d'œil* as can well be conceived. The whole proceedings were in Latin, and greatly interested many who had never before witnessed so imposing a University ceremony. The new Doctors were warmly cheered. At the same time, Dr. George Burrows, of Gonville and Caius College, Cambridge, and Dr. W. H. Ranking, of Catherine Hall, Cambridge, were admitted to the *ad eundem* degree of M.D.

DR. ACLAND'S CONVERSAZIONE IN THE RADCLIFFE LIBRARY. At 8.30 P.M. about 550 gentlemen partook of DR. ACLAND'S hospitality. Besides the usual objects of interest in the library, the following were placed for inspection during the evening.

In the Central Area. Portrait of SYDENHAM, formerly Fellow of All Souls. Portrait of LINACRE, formerly Fellow of All Souls. (The Warden and Fellows of All Souls.)

Portrait of HARVEY, formerly Warden of Merton. (Dr. Marsham, Warden of Merton.)

Portrait of PROFESSOR OWEN, D.C.L., F.R.S., etc. (George Richmond, Esq.) Daguerreotypes. (N. S. Maskelyne, Esq., Reader in Mineralogy.)

The Pendulum Experiment of Foucault, showing the rotation of the earth. [The length of the pendulum is about 80 feet.] (The Rev. Professor Walker, F.R.S.)

Stereoscope, Pseudoscope, and other Philosophical Instruments. (Idem.) Applications of Gutta Percha to various arts. (The Gutta Percha Company.)

Microscopes. (Messrs. Smith and Beck.)

Osteological Specimens. Christ Church Museum and Mr. Flower.)

Under the Gallery (commencing on the left hand). 1. Selection of surgical instruments with the recent improvements. (Messrs. Weiss.)

2. Bandages and kindred surgical apparatus. (Mr. Sparkes.)

3. Preparations for the microscope. (F. Symonds, Esq.)

4. Preparations for the microscope. (Mr. Topping.)

5. Some rarer chemical and pharmaceutical substances. (Mr. Lloyd Bullock.)

6. Physiological and pathological preparations. (Christ Church Museum.) Circulation in the proteus anguinus; pathological and microscopical preparations. (Lionel Beale, Esq., M.B.)

7. Pathological drawings. (Dr. Handfield Jones, F.R.S.)

The effect of the assembly in the area and galleries was extremely striking, and the gratification of the company seemed to be great and universal. Besides the members, many distinguished persons from London, Oxford, and other places, were present.

SECOND DAY, THURSDAY, JULY 22.

The Association met at 12 o'clock, soon after which hour the Convocation House was quite full.

CHARTER OF THE COLLEGE OF PHYSICIANS. DR. COOKWORTHY read the following report:—

The Committee appointed yesterday to take into consideration the bearing of the proposed charter of the College of Physicians of London on the Provincial Physicians of England and Wales, have met; and not feeling themselves in a position to present a detailed report, have unanimously resolved to invite all Provincial Physicians, now in Oxford, to meet this day at 5 p.m., in the Divinity School (permission having been obtained), and then to form a Committee, authorised to put themselves in communication

with their brethren, and with the London College of Physicians, with a view of making such suggestions as may appear necessary to protect the interests of the Provincial Physicians practising in England and Wales, without compromising the welfare of the profession at large, or the public good, the only proper end and object of legislative enactment.

J. C. COOKWORTHY, M.D.,

Oxford, 22nd July, 1852.

On behalf of the Committee.

MEDICAL REFORM BILL. DR. ROBERTSON, in a few sentences, which we heard but imperfectly, from the low tone of voice in which he spoke, proposed that the Association should adopt as their own the last draught of the bill which had been printed by the central council in the Journal. It was a liberal and a just settlement of a long agitated question—one, however, which recent events had greatly simplified. He proposed that a committee, selected so as to represent all shades of opinion in the Association, should be formed to watch the progress of the measure, and amend its details, should that appear necessary.

MR. CARTWRIGHT (of Oswestry) was happy to second the resolution proposed by his venerable friend Dr. Robertson.

It was important that a committee should set to work actively to carry out the Draft Bill emanating from the central council; it was the more necessary, as there was reason to fear that the apathy of the profession on this long-debated question was so great, that when all differences were nearly adjusted, the final and crowning measure of the whole would be lost for want of energy.

The draft bill (if not a perfect measure) had given much more universal satisfaction to the profession at large than any other measure submitted to it. It was unnecessary for him (Mr. Cartwright) to enter into details of the construction of the bill, as that would be much more ably done by a talented barrister (Mr. George Hastings), who would fully explain the provisions of the bill to the meeting. The construction of the bill was simple, not interfering with any *strictly professional* corporations, and appointing such penalties only as were necessary to correct irregular practice. The bill was based on the adoption of the two new charters for the Colleges of Physicians and Surgeons, which were framed in a liberal spirit, and the latter of which has already come into operation, and tended much to heal those disputes which had existed between the College of Surgeons and their members (applause).

The governing body (in the present bill) was to be formed by one-third of its members being appointed from the College of Physicians; one-third from the College of Surgeons; and one-third independently selected from the bulk of the general practitioners by the secretary of state; the council would also receive weight and dignity from the addition of the Regius Professors of Physic in Oxford and Cambridge, and from the President of the Colleges of Physicians and Surgeons. It was his firm opinion, that a council so selected from the *élite* of the profession, would carefully watch over the interests of the general practitioner, and would be found of much greater utility, more effective, and more agreeable to the profession, *than any third incorporation*.

Mr. Cartwright would here appeal to those gentlemen who had favoured the proposed third incorporation! As it was now clearly impossible to carry out the institution of a third incorporation, he suggested that the appointment of such an independent Medical Council as the bill provided for, would form a neutral ground on which the members of the Institute of General Practitioners could unite with the promoters of this bill, and provide effectually for what they were all deeply interested in, the improvement of the *status* of that hard working and deserving class, the general practitioners of the country; he hoped the appeal he now made would end in some of the Institute gentlemen being appointed on the Committee.

The advantage of this would be, that, if by mutual concessions an understanding could be come to, they could approach the Colleges of Physicians and Surgeons as one body, united to obtain a bill for the general benefit of the profession. It was already known that the College of Physicians approved of the measure; he hoped that the College of Surgeons would listen favourably to their requirements;—and such unanimity on all sides would greatly enhance the favourable opinion which the Home Secretary was disposed to entertain of the measure; in fact, it had been stated, that if it could be presented to Mr. Walpole under such circumstances, it would be adopted as a Government measure. He would urge the Committee to push forward to such a consummation; and in the hope that, ere long, this long-agitated, and most important measure, would be honourably and satisfactorily arranged by legislative enactment, he would conclude by seconding the nomination of the Committee proposed by Dr. Robertson, to carry out the Draft Bill of the Central Council. (*Cheers.*)

MR. G. HASTINGS (barrister, London) then entered into a luminous explanation of the measure. He pointed out the necessity of mutual concessions being made by the different bodies; and mentioned that there now seemed an anxious wish on their part to accommodate all differences. He was sorry to say that the Scottish Corporations had intimated their intention to oppose the bill: this he regretted, as the obtaining of a reciprocity of privileges by qualified men in the two kingdoms might in this way be for a time delayed: but, as the profession in England had clearly no right to meddle with the affairs of their brethren in Scotland, except with their consent, he advised that the Association should authorise the proposed committee to strike out everything relating to Scotland. (*Hear, hear.*) He had no doubt that in a short time the profession in Scotland would be organised and speak out: and their voice might be in unison with that of the Provincial Association, and opposed to that of the Scottish Corporations. The Irish Corporations had not as yet objected to the bill; but they might feel the same jealousy as the similar bodies of Scotland. For that and other reasons, it would be safer to erase such clauses as affected Ireland; and thus the measure would be one with which the profession in England was alone concerned. Mr. Hastings stated, that if the profession in England generally united in favour of this bill, the Secretary of State for Home Affairs (whether Mr. Walpole or Sir George Grey) would gladly carry it through: both gentlemen had said so. Sir George Grey had carefully studied, and thoroughly understood the whole subject of medical reform; and he was most desirous to assist the profession in carrying a good measure. As to the feeling in the House of Commons, he had no hesitation in saying that, generally speaking, members were thoroughly sick of the subject (*laughter*); but, for this very reason, they would gladly pass any measure which was likely to terminate the hitherto endless succession of Medical Reform Bills. He believed that twenty draughts had already been submitted to the legislature: and they had all failed through the disunion of the profession. If this bill met with a similar fate, no fresh attempt was likely to be made for many years.

A MEMBER (whose name we did not ascertain) objected to the constitution of the Council, as being one which did not adequately represent the general practitioners. He trusted that the Committee to be appointed would endeavour to ameliorate the constitution of the Council in this respect.

MR. WALLACE (Mayor of Winchester) did not think that in the account of the negotiations described by Mr. Hastings, any notice had been taken of the Society of Apothecaries—a body which had done more than any other to improve the *status* and education of the profession. They not only insisted on a good acquaintance with medicine, surgery, and midwifery; but now they were requiring a sound *previous education* from young men entering upon medical studies. For these reasons the Apothecaries' Society ought not to be slighted: they had been great benefactors of the profession and of the public. The

idea of an "inferiority" pertaining to a general practitioner was not now so much heard of, but still it was sometimes insinuated. The army and navy surgeons were general practitioners: the surgeons of the provincial hospitals of England were mostly all general practitioners: and who would venture to say that among these classes there were not many surgeons as skilful and as scientific as any that the metropolis can boast of? He had been for forty years a surgeon to a provincial hospital, and he was not ashamed to say, that he was also a general practitioner.

MR. STEDMAN (of Guildford) also regretted that there had been no communication between the Council of the Association and the Apothecaries' Society: he thought that a communication should also have been opened up with that great body of associated practitioners known as "the *Institute*". This influential combination had been driven by the unyielding obstinacy of the College of Surgeons to agitate for a third incorporation—an incorporation of general practitioners; but the College of Surgeons had now made great concessions, and he thought he might say—although he could not say so officially—that the Institute party, to whom he belonged, was now ready to hold out a helping hand to the Provincial Association, and cooperate with it in carrying such a measure as might appear best calculated to benefit the profession and society. (*Cheers.*)

MR. HASTINGS begged to be allowed to make a communication which would at once set at rest a misconception which the observations of the last speakers were calculated to originate. The Society of Apothecaries *had been communicated with*, and that too in the very words which were addressed to the two London Colleges; but the Society had not taken up the subject. The Institute had also been communicated with, but their reply was, that "they would oppose the bill, as their wish was to have the general practitioners united in a third corporation." The recent and liberal changes in the College of Surgeons had now, in a great measure, conciliated the Institute; but his object in rising was to state to the meeting that the Society of Apothecaries and the Institute had been treated with that respect to which they were entitled. (*Applause.*)

MR. BOWLING (of Hammersmith) regretted that in the bill there was no provision for examinations in midwifery. He thought that there were more lives unnecessarily lost in that branch of the profession than in any other. Some stringent statutory regulations were required to ensure to the public proper obstetric education.

The REV. DR. BELL said that though the practice of medicine was no longer his occupation, and though he had assumed a still more sacred calling (*cheers*), yet he was proud to continue to be a member of this Association, and had always much pleasure in participating with his medical brethren in the advantages of these annual meetings. (*Cheers.*) Many years ago he had advocated changes not very different from those which were now so likely to be harmoniously carried out. He did not, however, like to trust all the details to any committee; and he would wish to add to the motion a clause directing the proposed Committee to convene a special meeting of the Association to consider their amended edition of the bill.

After some debate it was at last agreed (on the suggestion of Sir Charles Hastings) that the Committee should be instructed to communicate their amended bill to the Central Council, by whom, if the alterations involved great changes, a special meeting of the Association was to be called. This arrangement gave general satisfaction, and terminated a discussion, which at first seemed likely to occupy a long time.

MR. LORD (of Hampstead) eloquently insisted upon the claims which general practitioners had upon society. Their position was not an inferior one: inferiority was the result only of misconduct and ignorance, and these might as easily degrade the pure physician and the pure surgeon as the general practitioner. He feared the representative system had been too much lost

sight of in the bill ; but if a good committee were appointed, he pledged himself to be contented with what they did, even though he felt that the Bill might not give all that was required by the profession. (*Cheers.*)

MR. HUNT (of London) wished to hear the names of the proposed Committee.

The CHAIRMAN (after some discussion) thought that the best course would be to put the original motion ; but if Mr. Hunt pressed an amendment, he would of course take the sense of the meeting upon it.

MR. HUNT stated that he did not wish to put his suggestion as an amendment.

The motion of Dr. Robertson was then carried by an overwhelming majority.

MR. PROPERT (of London) moved that the following gentlemen do constitute the Committee to take charge of the bill :—Dr. Robertson, Mr. Cartwright, Mr. Walsh (of Worcester), Mr. Bree (of Stowmarket), Mr. Noble, Mr. Bottomley (of Croydon).

MR. NUNNELEY (of Leeds) seconded this motion ; which was unanimously carried.

It was then moved and seconded, that Mr. ProPERT and Mr. Nunneley be added to the committee. Mr. Nunneley's name was added, with his consent ; but Mr. ProPERT having excused himself from acting, in consequence of the great demands upon his time in connexion with the Medical College, the name of Dr. Webster (of Dulwich) was substituted for his.

DR. EDWARDS moved that the thanks of the Association be given to the son of Sir Charles, Mr. Hastings, of London, for his talented and judicious exertions on behalf of the Association in the cause of medical reform. The bill was ably drawn up, and had been most lucidly explained to them. This proposal was received with much enthusiasm, and was unanimously carried : whereupon the chairman thanked Mr. Hastings in the name of the Association.

THE ADDRESS IN MEDICINE was delivered by Dr. M. EASON WILKINSON, of Manchester. The subject chosen was Scrofula.

THE ADDRESS IN SURGERY was delivered by J. T. HESTER, Esq., of Oxford.

It was then determined that the next anniversary should be held at Swansea, and Dr. Whidburn was appointed president. Dr. Radclyffe Hall, of Torquay, was requested to read the address in medicine, and Mr. Prichard, of Bristol, the address in surgery, at the next meeting.

MR. HUSSEY then read a report of cases in the Radcliffe Infirmary.

MR. TOYNBEE read a paper on artificial membrana tympani.

DR. HUTCHINSON (of Derby) read a paper on the pathology of insanity.

MR. HAKE (of Leeds) moved, and Mr. PAGE seconded, a vote of thanks to Mr. Hussey and other gentlemen who had made communications. Carried unanimously.

DR. FORBES WINSLOW moved, and Mr. NEWNHAM seconded, a vote of thanks to Dr. Acland for his hospitable reception of the members of the Association in the Radcliffe Library.

DR. CONOLLY moved a vote of thanks to the Vice-Chancellor and the University for their cordial reception of the Association.

The President having vacated the chair, Sir C. HASTINGS moved, and Mr. HUNT seconded, a vote of thanks to the President for the able manner in which he had conducted the proceedings of this anniversary.

DR. OGLE returned thanks. The proceedings of the Association then terminated at 5 P.M.

Many of the members attended a microscopic demonstration, by Professor Quekett, of the Royal College of Surgeons, in the Christ Church Museum.

THE DINNER AT THE TOWN HALL.

A sumptuous banquet took place on Thursday evening at the Town Hall, as a *finale* to the proceedings. There were 200 present. The Regius Professor of Medicine and President of the Association (Dr. Ogle) was in the chair; and among those near him were the Vice-Chancellor of the University (Dr. Plumptre); Sir Charles Hastings, M.D.; Dr. John Conolly, Dr. Jenks (late President); Sir C. Clarke, Dr. Acland, Dr. Forbes, Mr. Cæsar Hawkins (the President of the College of Surgeons); the ex-President of the College of Surgeons; the Bishop's Chaplain; William Ward, Esq., Mayor of Oxford; Mr. Alderman Spiers, Sheriff of Oxford; the Senior Proctor, the Junior Proctor; Dr. Jackson, etc., etc.

After the cloth was removed, the CHAIRMAN gave in succession "The Queen"; "Prince Albert, the Prince of Wales, and the rest of the Royal Family"; "The Bishop of Oxford and the Clergy"; the "Army and Navy". He next proposed "The Vice-Chancellor and the University Authorities" (*cheers*). He noticed the presence of the Vice-Chancellor and Proctors as a graceful and honouring compliment to the Association.

The VICE-CHANCELLOR rose, and was loudly cheered. It was a great pleasure to every member of the University in having an opportunity of shewing attention to such an honoured body as this Association, who had reflected honour upon the University in assembling this year at Oxford. It could hardly have been otherwise than that this University, who, always anxious to pay a compliment to those distinguished in literature and science (*loud cheers*)—and especially to those whose lives were devoted to the physical amelioration and improvement of mankind. The University had had the honour of enrolling among its members three distinguished men, upon whom the honorary degree of D.C.L. was conferred yesterday in the Theatre; and he trusted that the compliment which was paid to those three gentlemen would be considered in some measure as a compliment also to the whole body of the Association (*cheers*). He had now very great pleasure in proposing that they drink the health of Sir Charles Hastings, M.D., Dr. Forbes, and Dr. John Conolly. (*Drunk with great applause.*)

SIR CHARLES HASTINGS, M.D., rose to return thanks, and said:—Mr. President, Vice-Chancellor, Proctors, Members, and Friends,—I had yesterday the pleasure, in a comparatively private party, of returning my grateful thanks to the Vice-Chancellor and Proctors of this University for the very distinguished honour that was conferred upon me and upon my two friends, Dr. Forbes, and Dr. Conolly, who I see around me on this occasion. (*Cheers.*) On the assembling of the Provincial Medical and Surgical Association in this ancient and venerated University of Oxford, I need not say that the compliment to which I have referred is one of the most distinguished compliments that can be paid to any person belonging to any profession. (*Loud cheers.*) I need not say that to be thus complimented is indeed a honour in such a place, where some of the most eminent statesmen, philosophers, and poets, born in this and every age since the University has existed, have received the like distinction; and, gentlemen, I need not say that this honour, received through three individuals, is a most distinguished compliment to the whole Association. Sir Charles concluded an eloquent address amid vehement applause.

The CHAIRMAN then gave "The President of the College of Physicians, and the President of the College of Surgeons".

The PRESIDENT of the COLLEGE of SURGEONS (Mr. C. Hawkins) returned thanks, and expressed a fervent wish that the present anniversary might prove an earnest that in future the profession would be closely combined, and that, as regarded the College of Surgeons, by-gones would be by-gones. (*Loud cheers.*)

The CHAIRMAN proposed the "Mayor and Corporation."

The MAYOR briefly expressed the pleasure it afforded him in offering the

city buildings to the Association. He alluded to the importance of the medical profession, and paid a graceful compliment to the President and other resident members of the profession, remarking that they were second to none in the talent and humanity with which they ministered to the "ills that flesh is heir to." (*Loud cheers.*)

The CHAIRMAN proposed the health of Sir Charles Hastings, M.D., the founder of the Provincial Medical and Surgical Association. The toast was received with enthusiasm.

Sir CHARLES HASTINGS said, this was now the twentieth time that he had risen to return thanks for the honour in drinking his health, in connection with the prosperity of the Provincial Medical and Surgical Association. It was now twenty years since that great experiment was first tried—since the foundation of this great Association was laid at Worcester. It was now twenty years since in that city some of the members present—but alas! how few remained—met to form an Association for the advancement of medical science and the promotion of peace and harmony in the profession. (*Loud cheers.*) This was the motto on their banner, and under that banner they had prospered, and he trusted they should continue to prosper. (*Cheers.*) Many and great objects had engaged their attention. They had battled manfully, and they hitherto had succeeded in that battle; and now they stood in a position more proud than at any preceding anniversary. (*Hear, hear, hear.*) They had received from this University strong and convincing proof that their exertions had been appreciated by the great, the noble, and the good. What greater reward (he said) can the exertions of good men receive, than the meed of praise of those who are capable of estimating those exertions? That we have this reward is patent and conspicuous to us all: had not the Vice-Chancellor dilated upon the importance of this Association? and are we not placed in this proud position because this Association was esteemed for what it had already done, and for what it proposed to do? (*Hear, hear, hear.*) Let them look at the difficulties which beset medical legislation; let them consider what had been accomplished in that respect. When we met at Worcester the medical corporations were hostile to the physicians in the provinces; but now the President of the College of Physicians, the President of the College of Surgeons, and the Master of the Apothecaries' Company, all come to our meetings, and wish us "God speed." (*Great applause.*) This is our triumph; let us go on prospering and to prosper. We are 1637 members united in one bond, desirous of advancing the profession, and showing that we love one another. This is true philosophy; this is Christian philanthropy! (*Hear, hear.*) We will continue in this good course: the medical corporations will pull together with us in this great and grand work, until we have placed our profession on the highest pinnacle which it is destined to occupy, and which it must occupy in future and better times. (*Loud and general applause.*) I thank you sincerely for your kindness; and to this great and honourable and flourishing Association, all I can say is, *Esto perpetua.*

"The health of the President, Dr. Ogle", was then proposed by the President of the College of Surgeons.

Dr. OGLE briefly returned thanks.

Dr. JOHN CONOLLY rose and said: Mr. President and gentlemen, I have to remind you of one of the most brilliant, scientific, and hospitable entertainments ever offered to the members of this Association in any of their meetings. (*Cheers.*) I am quite sure that every gentleman who had last night an opportunity of being present at the *conversazione* at the Radcliffe Library (*unbounded applause*), that every one, on leaving that institution at night must have said to himself, "here at least have I passed one or two of the most intellectual, agreeable, and charming hours of my existence!" He must have felt all the better qualities of his intellect and

all the better feelings of his heart called forth by witnessing all that the human intellect has brought into play up to the present time, by the kindness of one of the most intellectual, accomplished, and amiable men that any of us have the privilege to call our friend. (*Cheers.*) I see that you receive the simple words of mine with the utmost enthusiasm—not from the value of the words themselves, but because they faintly express the feelings of every heart in this room. Gentlemen, I think there are none of us provincial people, who have come here to Oxford, but must feel perfectly overpowered by the grand spectacle afforded by this great University; as we walk among venerable walls—these monuments of learning—the great schools which had exercised and must exercise such an influence on mankind, and reflect that they are presided over by men who have received us with such kindness and warm simplicity, I think all of us must be impressed with that feeling (*hear, hear*), and that we shall go away impressed with sentiments of regard towards this University. We have been entertained under that magnificent roof, erected by one of our own profession, where we saw all that could charm the intellect, engage the affections, and enlighten our understanding; and we felt that above all we were there under the auspices of a gentleman, of whom it is no empty praise to say, that he is one of the lights and also one of the charms of the profession. Gentlemen, I beg to propose the health of Dr. Acland. (*Rounds of applause.*)

DR. ACLAND (the Radcliffe Librarian) said, that if in attempting to receive the members last night, he had been actuated by personal motives, he could not have answered them to-night. Dr. Conolly had been pleased, in most eloquent and exquisite language, to paint rather the feelings of his heart than the circumstances he himself had been engaged in during the preceding day. Now, a good painter, if he paints at all, paints not what he sees, but what he feels. He (Dr. Acland) would at once dismiss any personal consideration. But he thought they would believe him when he said that in inviting them last night he asked them not to meet *him*, but to meet one another at the Radcliffe Library (*Hear, hear*). That Library was founded by a physician, and its trustees had devoted it to medical and natural science. When the office of keeper was vacant, several candidates appeared. He (Dr. Acland) offered himself as a candidate, in the hope that the office might not pass out of the hands of the profession. But their President (Dr. Ogle) would remember that he (Dr. Acland) said to him in a lane in Oxford, soon after the death of Dr. Kidd, that the Regius Professor of Medicine, whoever he might be, certainly ought to have the dome of the Radcliffe Library as his official dwelling. At the time he (Dr. Acland) had not the slightest reason to believe that the office of Librarian would be conferred upon himself, but he wished that he who was at the head of medicine in Oxford, should be at the head of the Library also. The Radcliffe Library was placed within the walls of Oxford, which is one of the most ancient universities in the world. Now, but few medical men issue forth from this University; this he contended was wrong; the work of education in Oxford in respect to medicine was defective; they did not, and need not, give a professional education in medicine; but he was most anxious to cast into the professional knowledge of all the profession the work of Oxford; this, however, had yet to be done,—and although he (Dr. Acland) appeared there as one of her youngest officers, he was desirous that this opportunity should not be lost in making known that Oxford had a great work to do for herself and for the country in this respect; that she could and would do it (*Hear, hear*). He appealed to the sentiments of those present. He knew how they felt last night at the Library; by what they saw there he (Dr. Acland) knew they were satisfied (*Hear, hear*). And why were they satisfied? Because they met in a great artistic edifice second to none in Europe, and they saw there, *art*;—because also they recognised in the persons of the Vice-Chancellor and the Proctors the representatives of *learning* (*Cheers*). Because, in addition to the im-

provements of art, they saw there representations of *science* in the deeper and more hidden paths made known in the works of Cuvier, and Owen, Quekett, and other great men. Dr. Acland concluded an eloquent and felicitous address by saying he had attempted to represent at the Radcliffe Library learning and truth,—ideas which in a greater or less degree were shared in by all, and that it was which had made them so happy last night. At the conclusion of the speech, the company rose and gave “three cheers for Dr. Acland.”

Various other toasts were drunk.

The proceedings, which were enlivened at intervals by the excellent performances of Grimmitt’s band, terminated at eleven o’clock, and thus the twentieth anniversary of the Association concluded with unusual *éclat*.

ASSOCIATION OF MEDICAL OFFICERS OF HOSPITALS FOR THE INSANE. A meeting of the “Association of Medical Officers of Hospitals for the Insane” was held at Oxford on the 21st of July. The following members were present: Dr. Wintle, of the Gainsford Hospital for the Insane, in the Chair; Dr. J. Conolly, LL.D., Hanwell; Dr. Bucknill, County Lunatic Asylum, Devon; Dr. Davey, Northwoods, Gloucestershire; Dr. Hitchman, County Lunatic Asylum, Derby; Dr. Kirkman, County Lunatic Asylum, Suffolk; Dr. Theunam, County Lunatic Asylum, Wells; Dr. Forbes Winslow, Sussex House, Hammersmith; Dr. Wood, Bethlem; William Ley, Esq., County Lunatic Asylum, Oxford; William Rice, Esq., ditto; Caleb Williams, Esq., York; Dr. Williams, Honorary Secretary, County Lunatic Asylum, Gloucester; Dr. Diamond, Metropolitan Secretary, County Lunatic Asylum, Surrey.

TOPICS OF THE DAY.

London, July 28, 1852.

MEDICAL JOURNALISM is likely to be seriously affected by the Provincial Association having determined to supply (after January 1853) its members with a weekly journal, edited in London. We have received several very important communications in connexion with this subject, which we are at present unable to enlarge upon.

LIZARS versus SYME. Mr. Lizars recently published a book defamatory of Professor Syme. Professor Syme stated that, for certain personal reasons, he could not and would not reply to the charges of Mr. Lizars. Mr. Lizars considered the language of Mr. Syme as libellous. On Monday, the 26th of July, an Edinburgh jury, before whom the case was tried, unanimously came to an opposite conclusion, and acquitted Professor Syme. One of the results of this decision will be to make the expenses of both sides fall on Mr. Lizars. This we do not regret; for though in the cause he was nominally the plaintiff, yet he was in truth the unprovoked aggressor; and, as the jury declared, the conduct of Mr. Syme was entirely honourable and blameless.

ETHERISATION IN PARTURITION NINETEEN YEARS AGO. In the *Boston Medical and Surgical Journal* for 10th March 1852, Dr. CHANNING relates the following interesting circumstances. Dr. Channing was recently attending a case, in which he administered ether with “excellent effects”. In his visit following the delivery, he asked his patient, “how many times she had used ether?” She named them, and added, “that there was one other time in which she used it with great advantage.” I asked when. “Nineteen years ago”, she said, “she gave birth to her eldest son. Her labour lasted more than a fortnight. In the absence of her physician, her husband tried to find something which had given some relief in her former and first

labour. He failed : but being engaged in preparing a chemical lecture, and making experiments with sulphuric ether, he thought he would try that. It was wiped freely over her face and forehead, and *breathed*. To his surprise, all her distress passed away—the spasmodic twitchings disappeared—violent voluntary effort, which constituted so much of her misery then, and has in all subsequent labours, ceased to annoy her. Her physician arrived, and was so much pleased with the effects of the ether, that it was employed during the rest of the labour. Her labour was now easy, was soon completed, and a stout living boy born.” Such was her account of her first use of sulphuric ether to diminish or to abolish pain.

CORRESPONDENCE.

TO THE EDITOR OF THE “LONDON JOURNAL OF MEDICINE”.

THE PROPOSED NEW CHARTER OF THE ROYAL COLLEGE OF PHYSICIANS. Agreeably to previous arrangements, a number of British graduates in medicine assembled in the Divinity School of the University of Oxford, on Thursday, July 22nd (permission having been previously obtained), to consider the provisions of the proposed charter. Among the gentlemen present we observed Sir C. Hastings, M.D., D.C.L., etc., of Worcester; A. Robertson, M.D. Edin., F.R.S. Lond. and Edin., of Northampton; T. McCoragher, M.D. Edin., of Chichester; W. P. Brookes, M.D. St. Andrews, of Cheltenham; E. V. Mainwaring, M.D. Glasg., of Bournemouth; H. Cooper, M.D. Lond., of Hull; T. G. Hake, M.D. Glasg., of Bury St. Edmunds; Forbes Winslow, M.D. Aber., F.R.C.P. Edin., of London; J. C. Cookworthy, M.D. Edin., of Plymouth; James Tunstall, M.D. Edin., of Bath; E. Howell, M.D. Edin., of Swansea; Dr. C. R. Hall, of Torquay; Dr. Eves, of Cheltenham, etc. etc.

Dr. Robertson, F.R.S., was unanimously called to the chair. After a preliminary conversation, Dr. Forbes Winslow proposed the following resolution, which, being seconded by Sir C. Hastings, was unanimously adopted,—“That the cordial thanks of this meeting be tendered to the President and Fellows of the Royal College of Physicians of London, for the extreme liberality displayed in the provisions of the proposed Charter of Incorporation: at the same time the meeting beg to suggest to the President and Fellows, whether the clause relating to the fees payable upon the admission to the membership, by those who at the date of the charter are graduates in medicine of British universities, be not open for reconsideration, with the view of reducing the amount to be paid for the diploma itself, especially by those who have long practised beyond the jurisdiction of the College, and of endeavouring to exempt all candidates, being graduates of British universities, from payment of £15 stamp duty, they having already paid a stamp duty on taking their degree.”

Proposed by Dr. Brookes, seconded by Dr. Cookworthy, and unanimously resolved,—“That a Committee be formed to communicate with the Royal College in relation to the proposed charter, and that it consist of Sir C. Hastings, Dr. Winslow, Dr. Eves, Dr. Hake, Dr. Tunstall, Dr. Brookes, and Dr. Cookworthy, that Dr. Tunstall be requested to act as honorary secretary, and that he do communicate the above resolution to the Secretary of the Royal College of Physicians.”

Thanks being voted to the Chairman, the meeting adjourned.

JAMES TUNSTALL, Hon. Sec.

LETTER FROM DR. HEREPATH ON INFANTILE PHLEBITIS.

32, Old Market, Liverpool, July 23, 1852.

SIR,—Having carefully perused Mr. Desmond's case of infantile phlebitis of the umbilical vein with purulent deposit, in your last journal, which has been placed by him in contrast with mine, permit me to observe, that although the foramen ovale was *open* in mine, and *closed* in his, at the time of the post-mortem examinations, it is very evident to me, that in *both* instances it must have *been pervious* at the time of the infection of the circulating current with the purulent matter produced by the phlebitis; this coincidence is proved by the general circulation suffering more from the pyrhæmia than the pulmonic circulatory system: in both cases the systemic capillaries filtered the circulating current, and arrested the pus globules, which of course formed the nidi of purulent deposits at their points of arrest; in process of time the less perfectly developed granules of pus which, on account of their smaller magnitude, had passed through the filtering systemic capillaries, became arrested in the infinitesimally minute capillaries of the lungs, producing engorgement of the pulmonary structure at various points. Had the little patients borne up under their maladies a little longer, these congested portions would have advanced to the next stage, and become purulent deposits, as occurred in the systemic capillaries.

I am, Sir, yours most obediently,

W. BIRD HEREPATH.

APPOINTMENTS.

- FARRE, Arthur, M.D., appointed one of the Examiners in Midwifery to the Royal College of Surgeons in England.
- GOODRIDGE, H. F. A., M.D., has been appointed Physician to the Bath United Hospital, in place of Dr. C. H. CLARKE, resigned.
- HAWKINS, Cæsar, Esq., appointed President of the Royal College of Surgeons of England.
- KEATE, Robert, Esq., F.R.S., appointed Vice-President of the Royal College of Surgeons of England.
- LUKE, James, Esq., appointed Vice-President of the Royal College of Surgeons of England.
- OLDHAM, Harry, M.D., appointed an Examiner in Midwifery to the Royal College of Surgeons.
- REID, James, M.D., appointed one of the Examiners in Midwifery to the Royal College of Surgeons.

OBITUARY.

- ADAMS, George, M.D., late Physician-General H.E.I.C.S. Madras, at 148, New Bond Street, on 9th July.
- DUTTON, James, Esq., at Hastings, where he had practised for upwards of fifty years, on 7th July, aged 78.
- GOSDEN, Dr., Assistant Staff-Surgeon, and late of H.M. 84th Regiment, at Midhurst, Sussex, on 10th July, aged 30.
- RECAMIER, Professor, of Paris, suddenly, of pulmonary apoplexy, lately, aged 77. To him is due our knowledge of the improved methods of treating diseases of the uterus.
- SMITH, N. T., M.D. at Newcastle-upon-Tyne, on 1st July, aged 83.
- STONE, Deodatus, Esq., Surgeon, at Oxford, on 12th July, aged 75.
- TAYLOR, John, M.D., Physician to the Huddersfield Infirmary, formerly Physician to University College Hospital, and Professor of Clinical Medicine in University College, on 28th June, aged 41. The deceased was an able contributor to clinical knowledge.

THOMSON, Thomas, M.D., F.R.S.L. & E., Regius Professor of Chemistry in the University of Glasgow, at Kilmun, Argyshire, on 2nd July, aged 79. He enjoyed a high reputation as a chemist.

TWEEDALE, John, M.D., Surgeon R.N., at Lynn Regis, on 28th June, aged 70.

VINCENT, John Painter, Esq., F.R.C.S., formerly Surgeon to St. Bartholomew's Hospital, and a Member of the Court of Examiners of the Royal College of Surgeons in England, at his residence, Woodlands Manor, near Wrotham, Kent, suddenly, on 17th July, aged 74.

Mr. Vincent commenced the study of his profession under the late Mr. Long, of Lincoln's Inn Fields; and was admitted a member of the College of Surgeons on the 20th of March, 1800. He succeeded Mr. Long in practice, having taken that gentleman's house, where he continued to practise until within a few years. On July 12, 1822, he was elected a Member of the Council of the Royal College of Surgeons, in the vacancy occasioned by the death of Mr. George Chandler. Previously to this, he had been appointed Assistant Surgeon to St. Bartholomew's Hospital, from which establishment he lately retired as Senior Surgeon, with the esteem of his colleagues and friends. On January 5, 1828, Mr. Vincent was elected a Member of the Court of Examiners of the College of Surgeons, in the vacancy occasioned by the resignation of Mr. Thompson Forster; and, in the years 1832 and 1840, he filled the office of President of the College.

Mr. Vincent published, in 1847, his *Observations on some parts of Surgical Practice: to which is prefixed, an Inquiry into the Claims that Surgery may be supposed to have for being classed as a Science*. This, we believe, was his only literary production; and is one from which we have derived much valuable instruction. It is the work of a practical surgeon, unwilling to obtrude himself on the notice of the profession until his experience had given authority and weight to his words.

WESTON, C. T., M.D., of H.E.I.C. Bombay Establishment, at Mahableschwur, on 27th May, aged 34.

BOOKS PRESENTED TO THE EDITOR.

[*Exclusive of Periodicals Received in Exchange.*]

BALLARD, Edward, M.D. *Physical Diagnosis of Diseases of the Abdomen*. 12mo. 276. London: 1852.

CANTON, Edwin, Esq. *Oration delivered March 2, 1852, before the Medical Society of London, at the Seventy-ninth Anniversary*. Printed at the request of the Society. pp. 31. London: 1852.

GARDNER, Augustus, M.D. *History of the Art of Midwifery: an Introductory Lecture*. pp. 32. New York: 1852.

GARDNER, Augustus, M.D., and others. *Report of a Committee appointed by the Academy of Medicine, (New York), upon the Comparative Value of Milk formed from the Slop of Distilleries and other Food*. Read March 1848. pp. 19. New York: 1851.

GARROD, A.B., M.D., Professor of Materia Medica and Therapeutics in University College, London. *Thomson's London Dispensatory*. 8vo. pp. 1230. London: 1852.

HANCOCK, Henry, F.R.C.S. *Anatomy and Physiology of the Male Urethra: and on the Pathology of Strictures of that Canal*. 8vo. pp. 86. London: 1852.

NELIGAN, J. Moore, M.D., M.R.I.A. *Practical Treatise on Disease of the Skin*. pp. 439. Dublin: 1852.

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ORIGINAL COMMUNICATIONS.

ON CYSTS IN THE INTERIOR OF THE EYE.

By WHITE COOPER, Esq., F.R.C.S., Ophthalmic Surgeon to St. Mary's Hospital, and Senior Surgeon to the North London Eye Infirmary.

GROWTHS in the interior of the eye are of various descriptions, and vary in the mode and extent to which they interfere with the integrity of the organ. My object in this communication is to describe two cases of cysts, the first being of an exceedingly rare description. The narrative is that furnished by the patient.

CASE I. On Friday, February 16, 1849, M. M., a young gentleman, eleven years of age, of strumous diathesis and excitable temperament, was in a garden, pulling out a piece of wire from an old box, when the wire suddenly gave way, and his hand struck his right eye with great force. The pain overpowered him for a time; he went into the house and laid down on a window-seat, sick and stupified as if stunned. As he was going home from school the following day, he said nothing about the accident, but he expected a black eye. The drive home was about three miles, during which he felt sick and poorly, and wore a handkerchief tied over the eye. In the afternoon, he rode a pony for an hour or two; but the eye being still painful, he bathed it with warm water on his return, and covered it with a shade. The pain increasing and inflammation coming on, he did not return to school; and on the 20th, the inflammation still continuing, a surgeon was called in, who discovered a wound across the cornea, apparently made by the thumb nail. Leeches were applied, and other judicious treatment adopted, but in spite of this, he was detained at home five weeks. By the month of April he was able to use the eye again, but there remained a seam, like a hair, where the wound had been; in other respects the eye was well. It was a question whether nitrate of silver drops should be employed to remove this seam-like opacity; but Mr. John Soden, of Bath, who was consulted, did not recommend them. From that time, Master M. experienced some dimness of sight, but no other

inconvenience, and pursued the usual routine of education. In April 1851, a minute speck, like a small seed pearl, was first perceived, the eye having been irritable and uncomfortable for some weeks previously. Mr. Morgan, of Lichfield, was, I am informed, at once consulted; and, as the young gentleman was soon to be placed at Westminster School, he advised that some one in London, well acquainted with the eye, should see the case. In the middle of June an opinion was taken, and it was advised that, as the speck did not obstruct the sight, it was safest to let it alone, unless it increased in size, as the inflammation which might ensue from any attempt to puncture it might endanger both eyes. Shortly after this, Master M. underwent operations for club-feet. The eye continued in much the same state; but in September, inflammation and irritation appeared, caused by weeping in consequence of a heavy domestic calamity; he was also restless, and for some weeks could sleep but little. In November, as the speck had slightly enlarged, another opinion was taken, and both gentlemen decided that the disease was a cyst containing fluid. Soon after, a consultation was held between these two gentlemen and the late Mr. Dalrymple; all agreed as to the singularity of the case, and that the cyst should be punctured, should it increase so as to interfere with sight. It was not, however, interfered with at that time, and Master M. went on with his education, though through the winter the eye occasionally became inflamed of an evening. Slowly but steadily did the cyst increase, and by the 8th of April he could not see at all in bright light, from the cyst completely obstructing the pupil. In the beginning of May, the patient got wet through, and from that time he had much pain and inflammation in the eye. It was arranged that he was to have gone to Mr. Dalrymple on the 5th May, but unhappily the lamented death of that gentleman took place on the 2nd. Master M. meanwhile became exposed to the infection of measles; and as it was uncertain whether he had taken them or not, it was considered proper that operative proceedings should stand over for a time, and on the 15th of May he returned to Torquay, where he had been previously staying. From that time, the inflammation and the pain and the size of the tumour all rapidly increased. Dr. B. Toogood considered the inflammation and pain to be caused by the growth of the tumour, and advised that no time should be lost in removing it. Four leeches were applied to the brow, and he was otherwise prepared for the operation. On the 28th he came up to London, and on the 30th he was placed under my care to undergo the necessary operation. On the following day, I saw him

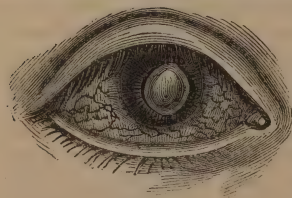


Fig. 1.

for the first time. There was difficulty in obtaining a view of the eye, from the excessive intolerance of light; but I saw enough to satisfy me that there was, projecting into the anterior chamber, a tumour or cyst about the size of a pea, lustrous and iridescent, like pearl, which indeed it closely resembled. (Fig. 1.) It filled up the pupil and pressed upon the iris, from which it appeared to have its origin. The eye was intensely inflamed, and so sensitive that it could scarcely bear the slightest touch. There could be no doubt that the growth was the cause of this inflammation and suffering; and, judging

from cases of foreign bodies related in this Journal, I had little doubt that the removal of the tumour would be followed by much relief.

At three P.M. on June 1st, the operation was performed by me, with the kind assistance of Mr. James Lane, Dr. Toogood, and Mr. Walker, the patient being chloroformed by Dr. Snow.

When he was apparently under the full influence of the chloroform, I made an incision near the outer margin of the cornea with Jäger's knife; I then attempted to grasp the tumour with canula forceps, but at that moment the patient partially recovered consciousness and struggled, so that I was obliged to withdraw the forceps and desist: by the spasm of the muscles of the eye, considerable prolapse of the iris took place. When the patient was again insensible, I attempted to grasp the base of the tumour with the fine forceps, but so hard and tough was it, that the instrument slid off without any impression being made: the wound in the cornea was therefore enlarged, and with a pair of strong iris forceps I succeeded in breaking up a portion of the cyst, which was as tough as cartilage. An endeavour was then made to cut it away with scissors, but on the iris separating from its ciliary attachment on the nasal side, it became apparent that the real attachment of the tumour was to the ciliary ligament; from that body it had arisen, had pushed between the lens and iris, and at last had made its appearance in the anterior chamber through the pupil. Although I succeeded in detaching the mass from this part, it had contracted such firm adhesions to the iris, that I found it impossible to draw the whole out without most seriously detaching the iris, and, indeed, destroying the eye, and as a portion of vitreous humour now appeared, I contented myself with removing piecemeal as much of the growth as possible, trusting to the powers of absorption to get rid of the remainder. The large portion of prolapsed iris was gently and carefully replaced, the edges of the wound brought into apposition, and the lid firmly secured with sticking plaster, in case vomiting should arise.

He recovered after a time from the chloroform, but remained upon the couch till the evening, when he was removed to bed. The plaster was then removed, and cold wet rags applied to the eye, which was carefully bandaged.

When examined under the microscope, the cyst appeared to be made up of epithelial cells, so closely agglutinated together, that it was only after maceration that they could be separated.

The progress of the patient during the eight days after the operation was all that could be desired. The eye gradually lost its soreness and sensibility, and at no time did he suffer anything amounting to positive pain; on the contrary, the operation, severe though it was, decidedly relieved the suffering which had distressed him so much previously. On Monday, the 7th of June, the eye was opened, and the cornea found bright, the wound well united, and the inflammation decidedly less than when I saw him first. On the 8th, Master M. went down stairs, and was placed on meat diet.

On the 10th, there was a return of lachrymation and some intolerance of light, and a dark zone of congested vessels which surrounded the cornea, and did not after some days give way to the counterirritation of a small blister on the temple, led me to try the effect of a mild mercurial course. On the 12th, he had begun to take a drachm of the

syrup of iodide of iron twice a day, but on the 19th this was omitted, and he was directed to substitute ten drops of the tinct. ferri acetatis in water, after breakfast and dinner, and to take the following pill every night: \mathcal{R} Hydr. c. cretâ gr. iij, extract. conii gr. jss, extract. opii gr. $\frac{1}{4}$. M.

On the 22nd, two grains of extract of poppies was substituted for the conium, which rather disagreed. The happiest effect was produced by this treatment; on the 26th, his mouth showed symptoms of mercurial action, and a marked amendment was visible in the eye. The zone speedily vanished; the intolerance was felt no more; and, by the 30th, he was able to face a moderately strong light without inconvenience. There were a few turgid vessels still lingering, and for these a drop of a solution of nitrate of silver, one grain to the ounce, was ordered. The eye was speedily relieved by this; and when I took my leave on the 3rd of July, there was not the slightest appearance of inflammation; he bore the light well, and expressed himself as feeling more comfortable in all respects than he had done for many months. The cornea was bright, but towards the outer part of the pupil, which was much disfigured from detachment of the iris from its inner margin at the time of the operation, there was visible a small portion of the tumour, torn from its attachment, and apparently undergoing absorption. He had sight with the eye, principally, I believe, through the artificial pupil thus made. On the following day he returned to Torquay.

My friend, Dr. Toogood, thus wrote on the 14th July: "I have just seen your patient Master M., whose health appears to be improved since his return to this place. His eye looks well, and he is quite free from all pain or uneasiness, and he assures me that he can see better and more distinctly." This satisfactory report has been confirmed by a still more recent letter from the patient's mother.

CASE II. Ellen Matthews, aged 22, accidentally struck her right eye against the sharp corner of a chest in October 1850. The eyelids were blackened by the blow, and a rather considerable effusion of blood took place beneath the conjunctiva, discolouring for three weeks the outer half of the eye, but without causing inconvenience to vision after the swelling had subsided. In the following February, the eye became irritable and intolerant of light, with increased lachrymation. There was a red patch at the outer margin of the cornea, which was at times

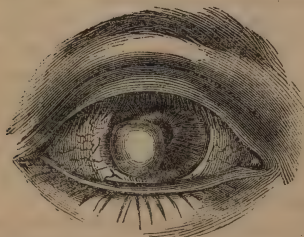


Fig. 2.

blended in a general inflammation. In April, a substance appeared in the anterior chamber, for which she underwent a course of mercury without benefit; the substance was in fact a cyst, which appears to have steadily increased in size. In September 1851, I saw the patient for the first time, and the appearances were as follows. The outer half of the anterior chamber was nearly filled by a delicate semitransparent cyst, which pushed back the iris and encroached upon the pupil. (Fig. 2.¹)

¹ The wood-cut fails to convey an idea of the delicate texture of the cyst, which was nearly transparent.

It appeared to originate from the junction of the iris with the ciliary ligament, and to have bulged forward from thence into the anterior chamber. There was still redness around the cornea, and the patient complained of a feeling of distension and aching increased by exposure to light.

The following day, September 5th, the cyst was punctured through the cornea with a broad needle; the transparent contents immediately escaped, and the cyst collapsed, a mere white fold indicating its position. The following day the patient expressed herself much relieved, and the irritation which had so long annoyed her subsided within a week. I did not see her again for three weeks, when she again called, complaining that her eye had become inflamed and painful, and on looking at it, I saw the cyst distended, about one-half its former size. I again used the needle, but this time not only punctured the cyst, but cut and tore it in several directions: relief was again afforded, and this time it was permanent, for the shreds of the cyst gradually shrank and disappeared, the eye becoming strong and able to bear the light, after the expiration of three weeks.¹

REMARKS. The nearest approach to the case of Master M. with which I have met, is recorded by Mr. Tyrrell, the outline being as follows. A fair and beautiful girl, about nine years of age, was brought to him for his opinion respecting a tumour connected with the iris of the right eye. It was about the size of a small pea, glistening like tendon, of a rounded figure, and attached near the margin of the pupil on the anterior surface of the membrane. It had been observed for several months, and had increased very gradually. The iris was otherwise healthy, and the vision good; but the motions of the pupil were somewhat interfered with. Mr. Tyrrell advised its removal, but his advice was for a time negatived. A few months afterwards, the tumour still increasing, gave rise to inflammation, principally affecting the iris. Mr. Tyrrell now removed the tumour and part of the iris. The patient went on well for three days; but at the end of that time she caught cold, and active iritis followed. For many weeks, this bade defiance to the mercurial treatment adopted; but at length the inflammation gave way, and the eye recovered, though with a very contracted pupil, admitting only of the perception of large objects. This tumour was attributed to the eye having been struck, some months before its appearance, by a bearded head of barley.

The aspect of the more delicate cysts, such as has been described in Case II, is very much that of an hydatid, except that there is always a definite base of attachment. The irritation excited by them is mainly the result of their being enclosed within the unyielding tunics of the eye; consequently, as they grow larger and require more space, painful tension is excited, and the iris, yielding more easily than the cornea, is pushed back or to one side. The treatment required is very simple; they may be simply punctured twice or thrice, or the delicate parietes may be lacerated with a needle, although the latter proceeding requires caution, in order that the iris may not suffer.

¹ Professor Wharton Jones has described (in a recent number of the *Lancet*) a well marked case of a cyst of a similar description.

Immediate relief is afforded by the escape of the pent-up fluid, and little, if any, irritation follows.

It has been suggested by Mr. Bowman, that the cause of these cysts is the formation of transparent fluid between the iris and uvea, which bulges forward the extensile fibres of the iris. That this takes place in some instances can hardly be doubted, as in a case related by the late Mr. Dalrymple, where a fissure appeared in the iris after such a cyst had been cured: still, I do not think this explanation applies to all the semi-transparent cysts found in the anterior chamber. In Case II, the seat of origin of the sac corresponded to the seat of the injury, and was at the ciliary margin, rather than the posterior surface of the iris; moreover, after its disappearance, there was neither breach in the iris, nor perceptible alteration in its fibres, such as would have been apparent had they undergone much stretching.

The dense cysts are happily very rare, and are far less manageable than the preceding. If it can be ascertained that a cyst of this description is a growth from the iris, the neatest proceeding is to make a free incision in the cornea, then to grasp the cyst with forceps, or fix it with a fine hook, and, drawing it through the wound, it may, together with the portion of iris forming its base, be snipped off with a pair of iris scissors. It is well to make the incision in the cornea free: if this be too small, it embarrasses every stage of the proceeding, and renders much unnecessary bruising of the iris indispensable; and there is nothing more to be deprecated than this. During the traction of the cyst through the wound, it must be borne in mind that the iris easily separates from its ciliary attachment; therefore, the utmost gentleness is requisite.

Should the tumour originate from the ciliary body, and work its way behind the iris, the removal becomes one of the most difficult proceedings in surgery. I may safely aver that, of the numerous operations for extraction, removal of foreign bodies, or artificial pupil, which it has fallen to my lot to perform, not one even approached in perplexity to that related in Case I. Before commencing an operation on one of these deep-seated cysts, the surgeon should weigh well all possible contingencies, so that he may be prepared to overcome every difficulty that may arise.

A congenital malformation may be mistaken for a tumour of the iris. A young lady was sent to me from the country, to have a tumour, growing from the front of the iris, removed. I was informed that it had existed from childhood; but as it bore a suspicious appearance, it was thought best to have it taken away whilst small, for which purpose she came to town. On cursory inspection, there appeared to be a small dark brown mass springing from the anterior surface of the iris: it was convex, and about the size of the head of a fly. Careful examination proved, however, that the supposed tumour was neither more nor less than a hernia of the uvea. There was a congenital gap between the bright hazel fibres of the true iris, and through this a little pouch of uvea protruded. Of course, no interference was recommended.

CASE OF ANEURISM OF THE EXTERNAL ILIAC ARTERY : LIGATURE OF THE COMMON ILIAC : DEATH ON THE FIFTEENTH DAY.

By ELLIS JONES, Esq., Surgeon to the Northern Hospital, Liverpool.

CASE. Morris Power, aged 34, rather slender, and not of a very healthy appearance, was admitted into the Northern Hospital, under my care, on December 12th, 1851. He was labouring under aneurism of the external iliac artery on the right side. He was a coal-heaver by employment, and was in the habit of exerting himself very much at times in loading carts with coal. On one occasion, about four months before admission, he felt something give way in his groin, and suffered a little pain in the part for some days afterwards; he however continued to work some time after this. About a month before entering the hospital, he applied to a druggist, who thought he had a bubo, and gave him a liniment to rub it. About four days ago, he had applied to one of the parish surgeons, who immediately suspected the nature of his complaint, and directed him to the hospital. He said that he had only perceived the tumour about a month before, and that his attention had been attracted to it by the swelling, which at the time pulsed strongly. It was, however, unattended by pain then as well as at the time of admission, but had ever since increased daily in size. It was about the size of a cricket-ball, of a round shape, seated above Poupart's ligament, which it pushed down towards the thigh by its pressure. A very strong impulse was communicated to the hand when placed over it; and, on applying the stethoscope, a loud bruit was heard. There was no swelling or œdema of the leg or foot. The circulation was perfectly regular and tranquil, and the action of the heart natural.

December 15th. In consultation with my colleagues, it was decided that tying the common iliac artery would be the most advisable plan to pursue; but the man, when it was proposed to him, would not submit to the operation. It was consequently agreed to try the effect of continued pressure by means of the horse-shoe tourniquet below or on the distal side of the tumour. This was continued until the 19th; on removing the tourniquet on that day, some little ulceration of the integuments had taken place from the pressure of the pad. As it was evident that it was doing no good, it was not continued. External pressure with the hand on the aorta stopped the pulsation in the tumour.

28th. The tumour had increased in size during the last week. It measured 7 inches by $5\frac{1}{2}$. The patient had been suffering great pain about the knee-joint, evidently from pressure on the anterior crural nerve. The skin over the tumour appeared inflamed, and felt hard about the groin. The pulse was about 84. The patient's appetite had not been good for the last day or two. He to-day gave his consent to the operation. He was ordered to take a dose of castor-oil, and, if necessary, an enema in the evening. The tumour now occupied the whole of the right iliac fossa, pushing Poupart's ligament down-

wards, and superiorly extending to within an inch and a half of the navel, being seven inches in its vertical diameter, and five and a half inches from side to side; it also projected fully three inches from the surface of the abdomen.

29th. It was decided that the only chance the patient had, was to submit to an operation. He was now perfectly ready to undergo it, and was composed and tranquil in his mind. The patient was placed on the operating table, with his shoulders a little raised; the incision was commenced at a point two and three-quarter inches above the navel, and a little more than three inches on the right of the median line, and was carried down two inches and a quarter below the navel, that being as far as the tumour would admit; the length being five inches. The different parts underneath were now carefully divided, until the peritoneum was exposed; this was extremely thin at the upper part of the wound. The peritoneum and its contents were now gently drawn towards the opposite side by one of my colleagues, and I was enabled to gradually insinuate my index finger behind the peritoneum, and slowly separate it from the parts beneath. After some time, the artery was felt pulsating under my finger. There was considerable difficulty in seeing the vessel, in consequence of the large size of the tumour; at length, however, more by the sense of feeling than sight, the aneurismal needle of Trant of Dublin, armed with a strong ligature, was passed under the artery from within outwards. The ligature was tied with the fingers close down upon the artery, when all pulsation in the sac ceased, and never returned. The wound was closed with three sutures; strips of adhesive plaster, a pad of lint, and a bandage were applied, and the whole limb was enveloped in cotton wool. The patient was under the influence of chloroform during the whole time; he neither moved nor was conscious of the least pain, and expressed himself as if he had been in a dream. He did not appear much exhausted. Only one bleeding vessel was taken up, and there was very little loss of blood. At eight o'clock he felt comfortable; he had no pain of any consequence. His pulse was 90. There was no pulsation in the tumour, which appeared much flatter. The temperature of the foot was natural. He was directed to take forty drops of Battley's liquor opii sedativus; and he was now placed on Hooper's water-bed.

30th. He had slept well during the night; the pulse was 108. The inflamed appearance of the integuments over the tumour had disappeared; the tongue was a little brown, but soft; he had no thirst. A little beef-tea and farinaceous diet were ordered to be given.

31st. Pulse 112. An opiate was given him last night. He did not sleep well. He had been vomiting some green-coloured fluid twice or three times in the morning, and was troubled with hiccup. The bandage was removed; on doing which, some dark coloured fluid ran out from the lower part of the wound. There was erysipelatous inflammation over the tumour, which seemed to extend.

January 1st, 1852. The pulse was 100. He had during the night some sleep at intervals; had no sickness since yesterday at noon. The hiccup continued, especially after taking any food into the stomach. He had taken six grains of opium since the operation, and eight ounces of wine. The erysipelatous inflammation appeared much the same. The sac felt soft to the touch. There was some discharge of a dark

colour and thin consistence from the bottom of the wound. His bowels had not been open since the operation.

2nd. Pulse 104. He had slept a little at intervals during the night. He had taken one grain of opium every four hours. In the night, considerable distension of the abdomen came on, which was relieved by the introduction of a long tube up the rectum, through which escaped some flatus; a turpentine enema was also administered, which brought away some motions. The sutures were taken off to day, and some dark coloured sanious discharge came away. The hiccup was still distressing to the patient. A draught of magnesia, with two drops of dilute hydrocyanic acid, was given three times a day. The erysipelatous inflammation seemed to have extended, especially downwards towards the thigh.

5th. The pulse was 110. There was to-day evident fluctuation over the tumour in the groin; an exploring needle was introduced into it, and pus was discovered. A small opening was made, and some pus came away, with a quantity of dark sanious discharge. He was ordered to continue his opium and wine.

6th. The pulse was 100. The hiccup continued. Over the right nates the integuments were much inflamed and distended, evidently having some fluid underneath. An exploring needle was introduced, and afterwards an incision was made, followed by about an ounce of matter.

9th. Pulse 120. There had been a very considerable discharge of thin sanious matter from the groin and nates. Over the trochanter there was perceived this morning a dark spot of the size of half-a-crown; and, on touching it, the cuticle peeled off, evincing incipient mortification of the part. He was directed to take three grains of sulphate of quinine every four hours, and to have wine and generous diet.

12th. Pulse 120. The original wound appeared healthy; in the centre of it, the peritoneum must have given way, as a part of the intestine was seen bulging out a little, with healthy granulations on the surface. This was ordered to be kept from protruding by a pad of wet lint, covered with straps of adhesive plaster and a bandage. The sac was quite flat; there was some discharge of dark sanguineous matter from it through the wound in the groin, with some coagulum. There was a considerable discharge of unhealthy looking matter from the nates. The dark spot of sloughing over the trochanter was separating. The hiccup had left him since yesterday.

A sudden change took place about ten o'clock at night. He began to be delirious; and in a short time he became insensible, gradually got worse, and died about three o'clock the following morning.

POST-MORTEM EXAMINATION. The portion of intestine which was denuded of peritoneum was perfectly healthy, and was quite adherent to the surrounding parts. The whole of the intestines were in a healthy state, and presented no sign of inflammation; neither was there any appearance of peritonitis. The aneurismal tumour was in the external iliac artery; it occupied the whole of the lower portion of the iliac fossa, and must have, from its bulk, caused considerable pressure on the surrounding parts. The ligature had been applied about an inch and a half below the bifurcation of the aorta; it contained nothing but

the artery, and was quite loose in the wound. The common iliac artery was healthy both above and below where it had been tied. The aneurismal sac had been completely emptied of its contents. Its coats were in a state of gangrene, which destroyed almost the whole of the external iliac artery. The gangrene had also extended to the surrounding tissues, and to the iliac and gluteal muscles, which were converted into a soft pulpous mass. There was a considerable quantity of grumous matter in the fossa of the ilium, similar to what had passed during life.

Although this case was unsuccessful, I have thought it necessary to publish it, as I only find on record those cases which have been successful—I believe about six in number.

Islington, Liverpool, August 1852.

ON SUPPURATION IN BONE.

By HENRY LEE, Esq., F.R.C.S., Surgeon to the Lock Hospital, Assistant Surgeon to King's College Hospital, etc.

(Continued from page 14, in Number for January 1852.)

II. PURULENT INFILTRATION OF BONE.

WHEN suppuration takes place in bone, and the fluid is neither limited by a cyst, nor by condensed bony matter, it will escape into the surrounding cancellous structure. Any diseased secretions may in a similar way infiltrate a large portion of the interior of a bone, and may there produce much local and constitutional derangement. Unless relief be afforded by artificial means, the morbid matter has no means of escape, and can be removed only by being received into the circulation, or by the lengthened process of ulceration or necrosis.

The free communication which exists between different parts of the cancellous structure of a bone is illustrated by a very simple experiment. If a small hole be bored in the sides of an adult bone, and water be injected, it will without difficulty permeate the whole of its interior; or, if the experiment be performed upon the bone of a younger animal, (up to the time at which it attains its full development), the whole of the shaft will be injected, but none of the injection will penetrate to the epiphysis. In like manner, diseased fluids, when they escape into the cancellous structure of bone, beyond the limit prescribed by the adhesive inflammation, are confined only by the dense osseous parietes, or by the junction of the epiphysis with the shaft.

The accompanying wood-cut represents a section of a femur infiltrated with pus, after an injury which had exposed a large portion of the cancellous structure of its lower extremity.

The line of separation, formed by the junction of the epiphysis with the shaft of the bone, is of much importance with regard to operations involving the extremities of the long bones in young patients. Up to the age of seventeen, and perhaps later, the epiphysis may be separated from a long bone without injuring its structure. In such



Fig. 5. Purulent Infiltration of Bone.

cases, however much the epiphyses of bones may be injured, (as, for instance, in the excision of joints), there is no probability that purulent or other infiltration will extend to the body of the bone, provided that has not itself been involved in the operation; or, on the other hand, if the shaft of the bone be the original seat of disease, that any morbid action will extend from it to the epiphysis. That diseased actions in bone are generally communicated by infiltration of the cancellous structure, and that such actions cease when they cannot thus be transmitted, is sometimes illustrated in the scrofulous affections of the bones of the fingers in children. The whole of the shaft of a bone may in such cases perish, leaving the articular extremities unaffected; recovery may then take place with a shortened finger, but without any interference with the natural motions of the joints.

The experiment of injecting the interior of a bone will not only show that a very free communication exists between the different parts of its cancellous structure, but also that the injected fluid may be made to pass very readily from the cancelli into the nutritious vessels of the bone, and thence into the general circulation. If the experiment be performed upon a bone which has just attained its full development, the injection will pass freely from the nutritious vessels of the shaft, or of the epiphysis, according to the situation in which the opening into the bone has been made.

It is easy therefore to understand that disease may readily be propagated, not only from one part of a bone to another, but also from the interior of a bone to different parts of the vascular system. This is doubtless the explanation of the very large proportion of cases, in which purulent infiltration of bone precedes secondary abscesses. In such instances, the course of the morbid action may be traced through the vessels of the bone into those of the general circulation. After amputation of a limb, terminating in phlebitis, for instance, it will sometimes happen that the divided extremities of the veins will show no signs of having participated in the disease, nor will any signs of inflammation be seen for several inches from the surface of the stump. But the first appearances of inflammation will appear in those veins, which are traversed by the blood derived from the nutritious vessels of the divided bone.

It is a point of much interest to trace the mode in which the fatal affection is in such cases transmitted. The following observations and experiments, while they are in some respects peculiarly applicable to secondary affections resulting from purulent infiltration of bone, are illustrative of similar diseases having their origin in other parts.

So much care has been taken of late years to distinguish purulent

from other morbid fluids, and especially from softened fibrin, that the idea appears to have become general, that the latter differs essentially from them in its morbid actions. Experiments would appear to show that while pus, under certain circumstances, exercises a very different influence upon the blood to that which is produced by dissolved fibrin, yet under other circumstances their actions are strictly analogous.

When blood stagnates in one of the larger veins of the body, it undergoes certain changes which terminate in the liquefaction of some of its constituents. Thus, in the decolorised masses of fibrin found in the veins after death, it is not at all uncommon to find the central portions in a fluid state. This change is in exact accordance with Mr. Gulliver's experiments upon fibrin when removed from the body, but maintained at its natural temperature. It would appear, however, that this conversion takes place much more readily in certain conditions of the system than in others; and as, on the one hand, the fibro-albuminous portions of the blood may very readily assume the solid form, so on the other hand may these same constituents of the blood, after they have become solid, be reconverted into their fluid condition.

CASE. A gentleman, of a gouty habit, had an attack of low, ill-defined erysipelatous inflammation in the leg; at the same time the femoral vein could be felt as a thickened cord at the upper part of the thigh. An incision having been made in the leg, a small branch of the internal saphena vein was divided, and the blood flowed from it as it would have done from an artery, but without pulsation. This evidently depended upon the blood being prevented from following its natural course by the obstruction in the femoral vein. The blood which flowed from the wound was received on a sponge in some warm water. Almost immediately it separated into its different parts. The decolorised fibrin floated in firm shreds in the water, and adhered in the same condition to the sponge upon which it was received. Some of this fibrin was collected; and, having been separated as far as possible from any admixture of water, it was placed in a clean bottle and corked up. When collected, it was quite as firm as fibrin usually is, and it required some little pressure to force some of the portions through the neck of the bottle. No artificial heat was in this case applied, but on the following day, the whole of the contents of the bottle had become reconverted into their original fluid condition.

The readiness with which the fibro-albuminous portions of the blood may undergo the change from the fluid to the solid, and from the solid to the fluid form, is a point of considerable interest in tracing the mode in which purulent affections of bone may extend, first to the nutritious veins of the part, and subsequently to the general system. When fibrin, which has been allowed to become fluid by decomposition, is mixed with recently drawn blood, it will determine its rapid coagulation. In this respect, the action of dissolved fibrin is analogous to that of pus; but there is this important distinction between the two, that, whereas the coagulum formed by pus is particularly firm, that formed by decomposed fibrin is loose, and however long it is kept, it does not become more solid.

The experiments which I have before published, illustrating the peculiar action of pus upon blood, have been repeated by several

persons, and especially by Mr. Millington of Edinburgh. The observations of this gentleman led him to the conclusion, that, whereas pus added to living blood determined its rapid and firm coagulation, putrid fluids, on the contrary, either retarded or altogether prevented such an action. From experiments which I have myself made with putrid fluids, I believe this conclusion to be generally true. But the effect of putrid fibrin upon blood affords a marked and very peculiar exception. It is to be remembered, that the blood in the living being is peculiarly subject to the action of decomposed fibrin; and it is in perfect accordance with the usual economy of nature to find the sensibilities of a part peculiarly alive to those influences which are calculated to affect it injuriously. The blood forms no exception to this general rule. Its sensibilities for its self-preservation are as evident as those of other parts of the body, and are called into play in an especial manner in reference to those injurious influences to which it is peculiarly liable. It is seldom that the blood is subject to the direct action of putrid vegetable matters, or even to the putrid secretions from animal bodies. But it is in an especial manner open to the influence of portions of liquefied fibrin derived from blood, which for a time has stagnated in some part of the vascular system. The following experiments will show how readily the contact of such is felt by the living blood, and also the means adopted for the preservation of the general mass of the circulatory fluid from its deleterious influence.

EXPERIMENT. Some fibrin of the blood was obtained quite firm, free from any colouring matter, and was kept and allowed to decompose. At the expiration of three or four weeks, it had become fluid and of a dirty light brown colour; a small portion of this was now mixed with some recently drawn blood from a bullock which had just been knocked down. In two minutes from the commencement of the experiment the mixture had formed a uniform soft coagulum: a similar quantity of unmixed blood, taken at the same time, remained fluid several minutes afterwards.

This experiment was repeated with some of the same fibrin in a more advanced stage of decomposition. A half pint of blood was taken from a horse in perfect health, and to this was immediately added a quarter of an ounce of the putrid fluid. The whole coagulated loosely in a minute and a half. The coagulum was kept till the next day, but did not become firmer than it was after it had first coagulated. The effects obtained from the action of decomposed fibrin on living blood are thus shown to be different, both from those produced by ordinary putrid fluids on the one hand, and by pus on the other. The experiment appears to prove, that in case any putrid fibrin should find its way into a blood vessel, the same means would be in force to limit its influence, to seal the vessel, and to protect the system against its circulation, as would happen if some healthy pus had been similarly introduced. But the soft and loose coagulum in the one case, although as rapidly formed, affords much less protection to the constitution, than the firmer and adherent clot in the other.¹

When the fluid fibrin has attained a very great degree of putridity,

¹ It is important to notice that these observations apply only to fluid fibrin in a putrid state; whether the effects of fluid fibrin which had not undergone decomposition would be similar, I have not had an opportunity of ascertaining.

the coagulum formed may not be of sufficient consistence to resist the circulating power of the blood. The morbid poison, when introduced into a vein, will under such circumstances pass without obstruction into the system. The effects produced will then offer a strong contrast to those which result from a similar introduction of pus into the circulation.

The following experiment illustrative of this point was performed for me by Mr. Mayer, veterinary surgeon. A young and perfectly healthy ass was secured, and the right jugular vein exposed. An ounce of fluid, derived from the spontaneous decomposition of portions of the fibrin used in the two former experiments, but in a much more advanced state of putrefaction, was mixed with an equal quantity of water, and injected by means of a syringe into the exposed vein. The vessel did not become "corded", and the circulation was not apparently impeded, as happens when a similar experiment is made with pus. In a few moments, the animal gave three or four groans expressive of much distress. The vital powers at the same time appeared to be suddenly prostrated. The animal was unable to rise, and soon fell into a state of syncope.

The faintness lasted for a few minutes. On getting up, the animal reeled and staggered about for some time, and then recovered sufficiently to walk to his stall. Some reaction now commenced, the breathing was disturbed, short, and quick; the pulse 120 in the minute, small and wiry. These symptoms continued for about an hour and a half, when the animal became very restless and uneasy, evincing internal pain by groaning and looking at his side. All food and water were refused, and death followed four hours after the operation.

On a *post-mortem* inspection sixteen hours after death, the jugular vein, into which the putrid fluid had been injected, was found in its natural condition, partially distended with fluid blood. It was pervious through its entire length, and contained no coagula. The lungs were studded with irregularly circumscribed, soft, black patches. When cut into, these discharged a black fluid, having the appearance of a mixture of blood and ink, and of a strong putrid smell. The heart had liquid blood in both its cavities. The cæcum and colon and a portion of the small intestines were deeply congested, and of a dark livid colour. There was an effusion of many pints of serum of the peritoneal cavity; this, as well as the blood throughout the body, had a putrid and very unpleasant smell.

In this case, the putrid injection either prevented the coagulation of the blood in the body, both before and after death, or had the effect (in the event of any coagula having been formed) of determining their speedy reconversion into a fluid state. These results afford the strongest contrast to those produced by the introduction of pus into a vein. In the latter case, the immediate and firm coagulation of the blood presents a barrier against the admission of the contaminated blood into the circulation; or, if by any means this first means of localising the morbid matter should prove abortive, the tendency of the infected portion of the blood to coagulate is evinced in some distant part of the system. In cases where it reaches the lungs, it there produces firm spherical patches of livid induration, not unlike in appearance to those observed in the experiment last quoted,

but differing altogether from them in consistency. In the one case, the patches of congested are produced by the firm coagulation of portions of contaminated blood; in the other, the blood has lost its vital properties together with its power of coagulating, and is already in a state of incipient putrefaction.

In the first instance, the affected portions of lung are at first firm, and an interval is required before they can become softened down; in the other, dissolution commences in the soft, pulpy portions from the first. These general considerations will enable us to trace the progress of disease from a portion, and often a very small portion, of injured cancellous structure of bone to the general system; and to account for the lapse of time which, in the great majority of cases, occurs between the receipt of the injury and the development of its constitutional effects.

When a portion of the cancellous structure of a bone has been injured, the blood in the Haversian canals of the injured part becomes necessarily stagnant between the injury and the next communicating branches. These stagnant portions of blood usually become coagulated and gradually absorbed. If the wound in the bone should suppurate, they at first serve the very important purpose of closing the vessels against the secretions of the part: an office which is subsequently much more permanently performed by the process of adhesive inflammation. It will occasionally happen here, as in the larger veins of the body, that the contents of the injured blood-vessels will become mixed to a greater or less extent with the secretions with which they are in contact. This may arise from some accidental mechanical cause, or from some inherent defect in the coagulating power of the blood.

The admixture of diseased secretions will determine the coagulation of those portions of the blood with which it comes in contact, and thus the coagula will extend farther along the vessels than they would have done, had the blood at first firmly sealed the divided extremities of the veins. Uncontaminated blood will remain for a long time in the living body, either in its solid or fluid state, without undergoing much alteration; but this is not the case when the blood has become mixed with vitiated fluids. Farther changes will then readily take place in it; and we may judge of what takes place in the minute vessels of bone, by that which can be better observed in the larger veins of the body.

There appears no doubt, from evidence derived from direct experiment, that a coagulum formed of vitiated blood may, and often does, in healthy states of the constitution, become gradually and entirely absorbed and eliminated from the system by the intestinal and hepatic secretions; but at other times, the vitiated and perhaps loosely formed coagulum becomes softened down and poured into the adjacent veins. It here determines one of the three following physical results.

1. The dissolved matter of the first formed coagulum mixing with fresh portions of blood may lead to the formation of fresh coagula. These may retain for a time the vitiated fluid; and, adhering at intervals to the sides of the vessels in which they are contained, they may prevent any of the foreign matter from reaching the general circulation. Within a short period, however, the centre of the newly formed coagula will become softened and gradually deprived of its colouring matter. The process of softening will proceed from the

centre towards the circumference of each portion, until nearly the whole is converted into a white fluid resembling pus. Should there be an opening in the bone, this may escape externally; but otherwise, increasing in quantity by the secretions of the surrounding parts, it is forced forward in the course of the circulation to contaminate and mix with fresh portions of blood, which, in their turn, first become coagulated, and then softened down, and converted into the same purulent looking fluid. If an opening be made in a bone in which this process is going on, not only the cancellous structure, but the Haversian canals will appear filled with pus. It occasionally happens under these circumstances, that on making an opening into a bone, a distinct little jet of purulent looking fluid may be seen to escape from one of the canals of the nutritious vessels. In such a case, the cavities of the vessels must of course be accurately closed by firmly adhering coagula in the surrounding parts.

The effects of purulent contamination of the blood usually extend in the course of the circulation.

CASE. A man, twenty-six years of age, had a blow upon the head which fractured his skull, causing at the same time a scalp wound, which left a portion of the bone denuded. Eighteen days afterwards, he complained of pain in the head, accompanied by nausea. To this succeeded what he termed "soreness of the stomach", which was soon followed by drowsiness and insensibility. He then became paralysed, and a good deal of irregular muscular twitching was observed in different parts of his body. He died a week after the commencement of the above symptoms. Yellow matter was found in the diploë of the parietal bone in the neighbourhood of the fracture, and purulent looking fluid, mixed with flakes of fibrin or lymph, occupied the *posterior half only* of the longitudinal sinus.

It sometimes, however, happens that the effects of the disease extend in a course opposite to that of the circulation. In these instances, it is probable that the whole mass of the blood has become, to a certain extent, contaminated, those portions which are kept at rest being the most liable to become first coagulated and then softened down. This is not unfrequently observed in cases of infection of the blood after childbirth. The blood in the common iliac vein will become coagulated in consequence of some diseased fluid poured into it from the uterus. This will cause the blood in the femoral and saphena veins to stagnate. Portions of the contaminated and stagnant blood in these, and in the vessels which supply them, will then become coagulated and undergo subsequent changes, involving the coats of the veins and neighbouring parts. Thus the disease will appear to have extended downwards, in a course contrary to that of the circulation. In the same way we must explain the curious fact, that after amputation of one leg or thigh, an abscess will occasionally form in one of the veins of the opposite limb. In such cases, *post-mortem* examinations sometimes show that the coagulation of the blood has extended from the amputated limb to the vena cava. An obstruction there would of course act equally upon both sides of the body. It is a remarkable fact in these cases, that the coagulum will never extend beyond the opening of the hepatic veins; the double current from the portal system and from the veins opening into the inferior cava being sufficient to carry forward any viscid contents of the vessel.

2. When the blood has become infected, instead of coagulating, it may separate into its different elements. In this case the fibrin is left unmixed with either the serum or the colouring matter of the blood. This process differs from that of coagulation in this, among other important particulars, namely, that whereas a coagulum formed of all the parts of the blood fills the vessel which contains it, the separation of the blood into its different parts leaves the fibrin alone in the vessel, and allows the more fluid parts to pass on into the general circulation. The consequence of this is that the vessels in which such an action has taken place still remain pervious. The blood can still pass between the fibrinous deposit and the walls of the vein in sufficient quantity to carry on, although imperfectly, the natural circulation of the part; such a condition, unlike that of coagulation of the blood, offers no security against the passage of any diseased secretions along the vessels. This tendency to the separation of the blood into its different parts was strongly marked in the blood which has been detained in the saphena vein in the first case above related. It would appear to be an action which not very unfrequently takes place in the body, although necessarily difficult to illustrate with regard to the smaller veins. I have lately, however, had an opportunity of observing this change in the capillaries of the liver. From each small tube a delicate thread of fibrin could be drawn, leaving some of the fluid parts of the blood in the vessels, which were stained of a darker colour than natural.

A case lately published in the *Gazette Médicale de Paris*, affords a very good example of this separation of the fibrin from the other elements of blood. The case was that of a soldier, who died in St. Michael's Hospital, having suffered for a long period with symptoms of disease of the chest. Four months before his admission into the hospital, without any apparent cause, and in a single day, the eyelids and the cheeks became considerably swollen. The lower extremities and the forearms became at the same time œdematous. Upon a post-mortem examination, the vessels of the left lung were found to contain fibrinous concretions, having the form of ramified cylinders, which extended through the pulmonary artery into the right ventricle of the heart. These concretions were white, or of a rus-nut colour, solid and resisting. They adhered but very slightly here and there to the lining membrane of the vessels, and were in some parts of the pulmonary artery, and of its larger branches, surrounded by a layer of semi-fluid black blood.

A similar condition has been observed with regard to the vessels of the brain; the longitudinal sinus has been observed to contain a firm yellow fibrinous mass, extending on the one hand in an arborescent form to the vessels of the pia mater, and on the other to the jugular veins.

In such instances, the sudden increase of the symptoms may mark with tolerable certainty the period at which the greater part of the fibrin is deposited, but this would appear to take place gradually in the majority of instances; and it is probable, as in the case of the soldier above mentioned, that it may exist for a long period, during which the circulation may be carried on sufficiently for the purposes of life. Upon a post-mortem inspection, the firm decolorised fibrin may

at once be distinguished from the blood which has coagulated around it after death.

3. The contaminated blood, instead of coagulating, or of separating into its different elements, may decompose. The whole of the constituents of the blood are then together involved in the changes which take place. The experiments above related shew that the same impediments will not, under such circumstances, be offered to the passage of morbid matter into the circulation as when the blood firmly coagulates in the veins. An interval, however, even in the most strongly marked cases usually elapses between the development of the infecting cause and the manifestation of constitutional symptoms. This is especially the case where diseased secretions enter the circulation through the nutritious vessels of bone. The morbid matter is detained for a certain time, during which the process of decomposition is established. The first infected portions of blood, together with the morbid matters which they contain, then pass on to infect the blood in adjacent vessels. The dissolved and putrifying fibrin from these will proceed further towards the centre of the circulation; in its course it will loosely coagulate fresh portions of blood, and then determine their decomposition. Each fresh portion of blood that is infected will add to the quantity of putrid dissolved fibrin in the vessels, and thus the disease will propagate itself, quite independent of the original source whence the morbid matter was derived. Each portion of blood which is attacked loses its vitality, passes into a state of decomposition, and becomes itself the means of infecting other portions. The contaminated blood may then be found in the vessels in every stage of decomposition, or it may have passed out of the vessels, having stained them during its decomposition of a deep livid colour. Long tracks of deep purple veins will occasionally be found, some being blocked up with the viscid blood in various stages of decomposition, and some having discharged their contents, and being comparatively empty.

CASE. A man of rather intemperate habits, received a kick from a horse on the right leg, on the 15th of October, 1851. The right tibia and fibula were fractured, and the fracture communicated with a wound in the skin. He was purged, and kept upon low diet. On the 22nd, some redness was observed around the wound, and the cellular tissue in the neighbourhood felt boggy. On the 1st November, he vomited after taking food, and on the following days he had several attacks of shivering. On the 4th, his complexion was yellow; he experienced no pain. Five days after this he died.

No union had taken place between the fractured extremities of the tibia, and the parts immediately around the broken portions of the fibula were in a sloughing condition. The superficial and deep veins of the leg and thigh were greatly distended with dark thick blood, but contained no coagula. The iliac veins contained small soft and dark coagula, but were otherwise healthy. In the middle of the right lung were two patches of secondary inflammation, and the right lobe of the liver contained several secondary abscesses, surrounded by firm and dark texture.

The examination of the following case, conducted by Dr. J. W. Ogle, I had the opportunity of witnessing through the kindness of Dr. Wilson, of St. George's Hospital. A married woman, twenty-three years of

age, miscarried, during the sixth month of her pregnancy, on the 4th of June, 1851. A few days afterwards she was attacked with intense pain in the abdomen, and two or three days later with pain in the calf of the left leg. The pain in the leg was accompanied by some swelling, which afterwards extended up to the thigh. She died on the 11th of July.

A small putrid abscess occupied the course of one of the branches of the left hypogastric vein, at a short distance from the neck of the uterus. The iliac and the femoral veins of the same side were filled with blood in every stage of decomposition. The spermatic vein of the same side was stained of a dark purple colour, but its canal was pervious and contained no coagula.

When the blood in one of the larger veins of the body decomposes, as in the preceding case, the period at which severe constitutional symptoms follow is comparatively short. Analogous affections originating in the minute vessels of bone usually require a longer period for their development. This is illustrated in the following cases.

H. B., aged 19, sustained a fracture of the fibula. Three months after the accident, and three weeks before his death, he had an attack of diffuse cellular inflammation in the leg, which terminated in supuration of the knee-joint. Upon examining the limb, the tibia in the neighbourhood of the fracture was exposed, and its structure was soft and of a black colour.

J. C., aged 45, had an extensive scalp-wound. Nineteen days afterwards, he experienced a rigor, and shortly became paralysed on one side. A portion of the skull, which was exposed, presented a dark green appearance, and when removed with the trephine, was of a putrid odour. The longitudinal sinus in this case contained contaminated blood, and there were secondary abscesses in the left lung.

In some cases, where the most severe constitutional symptoms have followed injuries of bones, the original lesion has appeared of no very great importance, and the surface of bone exposed has been of very limited extent. In the following instance, the original injury was not regarded with any apprehension, yet it proved speedily fatal after the appearance of the symptoms of secondary inflammation.

E. P., aged 50, had a lacerated wound of the foot, which detached a small portion of the base of the fifth metatarsal bone. This bone was also simply fractured towards its centre. After having for some time progressed without any unfavourable symptoms, pain in the chest, a rapid pulse, depression, with delirium, suddenly made their appearance, and were found, on a *post-mortem* examination, to have arisen from inflammation of the right pleura, and the formation of secondary abscesses in the right lung. The amount of contaminated blood contained in the injured bone must in such instances be very small; and there can be little doubt that recovery would take place much oftener than it does, did not the disease propagate itself in the blood. When this takes place, it is usually indicated by one of the three classes of physical changes above described. The different natural processes which they illustrate may, however, take place in various degrees in the same case; and the condition of the blood upon *post-mortem* inspection will, in different parts of the vascular system, present corresponding varieties.

BIBLIOGRAPHICAL RECORD.

PRACTICAL REMARKS ON PALPITATION AND OTHER FUNCTIONAL DISEASES OF THE HEART. By JOHN CALTHORP WILLIAMS, M.D. Second Edition. 8vo. pp. 207. London: 1852.

The author states in his preliminary chapter, that he enjoyed the advantage of being a pupil of the distinguished Laennec, and that he has been in the daily habit of using the stethoscope for the long period of thirty years. He then describes to us, in the following compound sentence, the end he had in view in writing the volume before us. "My object will be especially to point out the distinctive marks between palpitation the result of organic disease, and sympathetic or nervous palpitations—delineating less minutely the symptoms of actual organic disease, and more carefully those which simulate disease of the heart; so as to unmask the nature of palpitation, when it exists as a sympathetic phenomenon."

That it is a matter of first importance for the practising physician to be able to distinguish mere simulated diseases of the heart, from those which are organic, no one can doubt; and we therefore are ready to admit, that the task to which Dr. Williams has devoted himself is a very worthy one; we sincerely wish we could add an opinion, that the manner in which he has conducted his inquiry is equally deserving of commendation. Looking at the volume before us from a general point of view, it presents but few attractions. It is remarkably destitute of original thought; there is frequent repetition of the same statements; terms are occasionally used which savour of mystery, and which deserve no place in medical literature; contradictory views are sometimes met with, and in many cases, opinions are given with which we believe few members of the profession would coincide.

The book is divided into twelve chapters. The first chapter is "preliminary": the second takes up "Exploration of the Heart": the third, "The Heart's Action": the fourth, "Sympathy": the fifth, "Primary or Sympathetic Palpitation": the sixth, "Sympathetic or Passive Palpitation": the seventh, "Anæmic and Uterine Palpitation": the eighth, "Palpitations from Dyspepsia, Poisons, Spinal Irritations, Gout, Rheumatism, and Debauchery": the ninth, "Functional Disorders of the Heart with Diminished Action": the tenth, "Neuralgic Disease of the Heart": the eleventh, "Diagnosis": and the twelfth, "Treatment".

We will dip a little into a few of these chapters. In the preliminary chapter the author inclines, though with much caution, to the common idea that heart diseases have increased of late years; and he offers suggestions, that the increase of such cases may have occurred from political struggles and such like causes of excitement. We do not wish to deny that Dr. Williams is right in supposing that mental emotions affect the heart; but we decidedly object to the notion that heart diseases are more common now than they were in past times. We believe with the distinguished essayists on the "decrease of disease by civilization" that such diseases "are now better known, and more regularly diagnosed than they used to be", and that upon this fact alone hangs all the apparent difference. The second chapter of Dr. Williams' book (on Exploration of the Heart), is a mere recital of what is generally known on the subject.

The chapter devoted to the consideration of the Phenomena of the Heart's Action, is, in our estimation, the best in the volume; but even here we are forced to observe several very strange and, we may say, incorrect statements. Thus, we are told, that "accumulation of fluid in the pericardium deadens the heart's sound, because fluid is a bad conductor of sound". Now is this

all? And is the diminution of sound in no way brought about by the mechanical difficulties under which the heart labours, from the pressure of the fluid? Again, we are informed, that "it is well known that the pulse of most persons becomes more or less accelerated towards evening"; an opinion held, we admit, by Haller, Cullen, Double, Robinson, Hufeland, and many others, but which has been shown by modern experiments to be quite at variance with truth. In saying this, we would refer the reader to the experiments of Knox, Nick, Hohl, and Guy, all of which prove, that the pulse becomes *slower* as the day declines. The most remarkable statement, however, in the part of the work now being noticed, is, that "organic disease of the heart never gives rise to any well-marked slowness of the pulse" (p. 35). Now we know positively, that in at least one instance where the heart suffers from organic change, viz., in cases where it undergoes fatty degeneration, a marked slowness of the pulse is one of the most striking symptoms; and we find Dr. Quain making particular mention of this symptom, in his excellent paper on Fatty Diseases of the Heart.

It is necessary for us to pass over the remaining part of the volume, with a few brief notices. The use which the author makes of the word "sympathy", in connexion with heart symptoms, is sometimes very objectionable, and the similes he employs to illustrate his meaning on this point, are often sufficiently perplexing. Thus, in one place, after remarking that from the influence of sympathy a blow on the head will produce vomiting, the odour of plants a sensation of pressure on the chest, and so on, he suddenly lapses into poetic fancies, and remarks: "It is thus—

"That when the dawn in russet mantle clad
Walks o'er the dew of yon high eastern hill,
The cock, that is the herald of the morn,
Doth with his lofty and shrill-sounding throat
Awake."

Leaving behind us many pages of the work, we dwell for a moment on a passage in the chapter which refers to gouty affection of the heart. Dr. Williams here says, "This gouty affection of the heart has been more fully and carefully described by Dr. Wardrop than by any other writer with whom I am acquainted." We are at one with our author on this point, though we feel bound also to direct attention to the valuable researches of Dr. Gairdner on the same subject.

Dr. Williams' two last chapters are devoted to the Diagnosis and Treatment of Heart Diseases, and give evidence that he is practically well acquainted with the derangements of the central organ of the circulation; but they contain nothing that is novel, or that may not be found in most elementary works on practical medicine. On comparing moreover the last chapter of the book with the first, we are pained to find opinions of the most opposite nature. In the first chapter (page 6), in commenting on a passage from Galen, in which blood-letting is enjoined as a remedy for palpitation of the heart generally, Dr. Williams observes, "Such cases, sometimes it is true do require blood-letting, but the temporary alleviation gained, in a great majority of instances would be more than counterbalanced by the increased predisposition to recurrence which that very blood-letting would engender." But in the last chapter (p. 184), the effects of blood-letting in producing recurrence of palpitation are so far forgotten, that the following assertion finds room: "Blood-letting, either general or local, is the main agent on which we should rely in cases of active palpitation."

In concluding our notice of Dr. Williams' book, we must observe, that we sat down to it as to a mental meal, with a sharpened appetite, and with the expectation of being "filled with good things". But we have partaken of all that has been placed before us, and we rise as empty as ever. Were we, after such a disappointment, to conceal our dislikes, we should act falsely, and depart altogether from English custom.

RHEUMATISM, GOUT, AND NEURALGIA, AS AFFECTING THE HEAD AND EAR ;
 with Remarks on some forms of Head-ache in connexion with Deafness.
 By WM. HARVEY, Surgeon to the Dispensary for Diseases of the Ear, etc.
 pp. 291. London: 1852.

This is a practical, useful, and very instructive work. Although portions of it have already appeared in our pages, we commend it as a whole to the careful perusal of our readers. It is, we believe, the first monograph which has yet been published on the rheumatic and gouty complications of deafness, and the author has therefore very properly introduced, not only the results of his own valuable experience, but copious gleanings from other authors of established repute; so that the work may be considered as presenting a complete and comprehensive summary of what is known on the subjects on which it treats. The following sketch of its contents will show that Mr. HARVEY's observations have not been confined to one or two forms of the disease, but are so comprehensive, that they may be presumed to be the result of very extensive experience. The work is divided into three sections, the first being devoted to RHEUMATISM, the second to GOUT, and the third to NEURALGIA. The First Section contains: 1. Rheumatism of the Ear and its appendages, as distinguishable from neuralgia of the face. 2. Chronic Head-ache. 3. Extension of disease to the bones of the ear and the mastoid process. 4. Muscular Rheumatism of the Head. 5. Periosteal Head-ache and Periostitis. The Second Section contains: 1. Arthritic affections of the Head and Ear. 2. Arthritic Head-ache. 3. Arthritic Otitis. The Third Section contains: 1. Connexion between Gout, Rheumatism, and Neuralgia. 2. Rheumatic Neuralgia. 3. Neuralgia of the fifth and seventh pairs of nerves and their subordinate divisions. 4. Neuralgia as connected with Renal Disease. 5. Sympathetic Head-ache.

The following extract from the author's preface will give the reader a fair idea of the scope and object of the work. "In a very large number of cases of deafness, it is found that the structure of the ear itself is sound and uninjured, but that its functions are impaired from causes more or less remote from the organ itself, and in many instances, from some affection of the general health. Thus the pathology of the organ of hearing adds another important item to the class of local diseases of constitutional origin, which, so long as they are regarded as local diseases only, usually baffle the skill of the surgeon. . . . Among the causes and complications of deafness, none are more common than gout and rheumatism, and those disturbances of the nervous system which issue in local pain without any palpable change of structure. And the author of the following pages is not unwilling to confess that, greatly to his surprise, he has found that many cases of deafness will recover, as it were, spontaneously, when an appropriate treatment of the existing complication, (as it has appeared to be, although it is in reality the constitutional cause), has been systematically adopted and perseveringly followed out."

HOMŒOPATHY: Its Globules [Bubbles] Analysed. By W. J. Cox, M.B.
 pp. 38. London: 1852.

Though homœopathy be now rapidly giving place to other forms of charlatanism and medical imposture, it can still muster many votaries among that numerous class which ever has existed, and ever must exist in society,—that class which loves to hug wild delusions, and which invariably caresses that fashionable folly which is the most chimerical, and the most opposed to scientific truths and common sense;—and the so-called facts of which are the most apocryphal and worthless. We have no room for extracts; but it is right to say, that any one who wishes to obtain in a few minutes a pretty correct idea of the published creed of that body of quacks, who have at last been so entirely driven forth from the ranks of the medical profession, cannot do better than read this concise analysis of homœopathy by Dr. Cox.

ON A NEW WAY OF TREATING GONORRHOEA. By JOHN L. MILTON, M.R.C.S.
London: 1852. pp. 103.

The new way of curing gonorrhœa which Mr. MILTON records in this volume, consists in the employment of strong injections of nitrate of silver, and in the administration of a mixture to which he gives the name of "compound solution of potassa". The solution in question is composed of chlorate and acetate of potass, with liquor potassæ and water. To each dose of it, from five to twenty grains of rhubarb are added. We need scarcely observe that strong injections of nitrate of silver have, for a long time past, been used for the cure of gonorrhœa, and that they are often found to be very efficacious when employed in the first stage of the disease. Neither need we dwell on the well-known fact, that aperients are of great service if administered at the time when the caustic injections are being used. The only new thing, therefore, that we can see in Mr. Milton's practice, is the mixture or solution to which we have already drawn attention. Of the value of this mixture, *per se*, it is impossible for us to speak, because the author does not seem to have tested its efficacy as a *separate* curative agent. His account of its effects, however, runs as follows.

"When one of these solutions is taken in doses of $\frac{3j}{\text{}}$, two or three times a day, a visible effect is had on the discharge, the diminution of this being very marked in the course of twenty-four to forty-eight hours, the purulent running becomes thinner, loses its yellow colour, and grows starchy. This effect seems to be produced with equal rapidity in cases of long standing, and quite recent ones; in women and in men." (p. 38.)

In speaking of chordee, the writer believes, and with some reason, that the painful erection is "due to muscular contraction". For the relief of chordee he finds large doses of the spirit of camphor most useful; we could offer proof of the correctness of his views on this point. In the treatment of gleet, Mr. Milton recommends the application of blisters to the penis. This he very properly describes as a revived form of practice, and he gives several cases in which the practice was followed with much success.

Taken as a whole, Mr. Milton's book exhibits considerable industry; but it is disfigured with numerous faults. The manner in which he expresses himself is often very imperfect; sentences are here and there used which are unworthy of an educated man; an undue proportion of original thought is laid claim to, and his Latin prescriptions are by no means famous for their latinity.

CORPULENCE OR EXCESS OF FAT DURING PREGNANCY: a Letter to DR. LEE.
By THOMAS KING CHAMBERS, M.D., Physician to St. Mary's Hospital.
pp. 23. London: 1852.

Since the publication of DR. CHAMBERS'S work on *Corpulence* in 1850, he has met with several cases in which pregnancy was attended by an excessive growth of fat; and to this phenomenon he is desirous of directing attention through the medium of a letter addressed to Dr. Robert Lee. After observing that, in healthy women, the amount of adipose tissue diminishes to a certain extent during pregnancy, he proceeds,—

"But in some persons prone to corpulence, either from an hereditary or acquired constitution, the contrary event happens; and as the child grows in the womb, the skin of the mother becomes more and more succulent and elastic, the limbs rounder and fuller, and the fat in the abdomen is added to at the same time as it is pressed upwards by the increased bulk of the viscera below. Hence arises a more than ordinary sense of suffocation, difficulty in moving about, and much general distress; yet the aspect is healthy, and the patient is often congratulated by her acquaintance on the possession of a robust and good constitution. These congratulations are misplaced; for besides the discomfort, the danger of miscarriage is, I think, much increased

by excessive corpulence. In the table which I published in my book on Corpulence, containing the cases of thirty-eight obese persons, it is remarked that several of the females had suffered this misfortune, amounting in one case to ten occasions; and it is singular how few children those had borne who were disposed to obesity in early life. There are nine cases of married women mentioned, the commencement of whose corpulence dated from before twenty years of age; and of these, one it is true had a moderately large family, but eight out of the nine had but one living child amongst them. It is to this danger of miscarriage that I should attribute the common notion that fat persons are unprolific. Such is certainly not the case in the male sex." (pp. 5-6.)

The increase of fat rather augments during suckling, and goes on unchecked till after weaning: sometimes the patient remains ever corpulent for life. Sometimes the excess of adipose tissue is not perceived till after parturition.

Dr. Chambers refers to the transformation of elegantly slim girls into obese married women, among the upper classes in India, as showing this tendency to be even a peculiarity of some races. The time of commencing obesity is fixed by Madame Ida Pfeiffer as that of suckling.

The obesity of pregnant and nursing women is not confined to the previously or diathetically corpulent, but is occasionally intercurrent or temporary, appearing during pregnancy, and ceasing after weaning. Excess in drinking liquids appears to promote the deposition of fat; and Dr. Chambers also directs notice to the known tendency to the formation of fat where the ovaries are dormant, as on the cessation of the catamenia, and in amenorrhœa and chlorosis.

In the treatment, liquor potassæ in drachm doses is the chief remedy; and with this must be combined such moderate walking exercises as the patient can bear; the diet should consist of dry bread or biscuit with lean meat, and the gratification of the thirst must be particularly guarded against.

DISEASE IN CHILDHOOD, ITS COMMON CAUSES, AND DIRECTIONS FOR PRACTICAL MANAGEMENT. By ROBERT ELLIS, F.L.S. 12mo. pp. 228. London: 1852.

This is not in any respect a very satisfactory work. We do not think that the character of the medical profession is elevated in public estimation by the forced introduction of religion into a work which pretends to belong to medical literature. The pious physician needs no trumpet to sound his orthodoxy. We therefore ask our readers if the following sentence be in its place in the work before us:—"For while repentance and faith in Christ are necessary to salvation to those of riper years, the opinion of many wise and good of all ages concerning young children has been uniformly expressive of the confident and assured belief that such children, dying before they commit actual sin, are saved through the merits of the Redeemer." Page 274.

CRITICAL DIGEST OF BRITISH AND FOREIGN MEDICAL JOURNALS.

[The Articles quoted or abridged are indicated by an asterisk.]

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

JULY 1852.

- 1.*MEDICAL AND SURGICAL NOTES OF CAMPAIGNS IN THE WAR WITH MEXICO, during the Years 1845, 1846, 1847, and 1848. By JOHN B. PORTER, M.D.
2. CONTRIBUTIONS TO AURAL SURGERY: ANALYSIS OF ONE HUNDRED AND FORTY CASES OF DISEASES OF THE EAR. By EDWARD H. CLARKE, M.D.
- 3.*REPORT OF TWENTY-FIVE CASES OF URINARY CALCULUS, IN TWENTY-THREE OF WHICH THE BILATERAL OPERATION WAS PERFORMED. By PAUL F. EVE, M.D.
4. ON THE CLIMATE AND DISEASES OF CALIFORNIA. By JAMES BLAKE, M.D., F.R.S.
- 5.*CASES OF SACCHARINE DIABETES, WITH TABULAR OBSERVATIONS OF ITS PATHOLOGY, AND THE RESULTS OF TREATMENT. By CHAS. FRICK, M.D.
6. EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. By W. W. MORLAND, M.D.

[The subjects referred to in this article are :—Angina Pectoris : Intussusception fatal, without complete Strangulation : Disease of Knee-joint of twenty years duration—no treatment during that period—Amputation : Incisor Teeth from the Lower Jaw of a newly-born Child : Decidua in an unimpregnated Uterus : Encephaloid Disease of the Peritoneum—Hæmatoid Variety : Material contained in a Tumour upon the Thigh of a Boy : Description of a Fibrous Tumour of the Uterus, with Encysted Disease of the Ovary : Anomalies of the Brachial, Thyroid, and Renal Arteries, all in the same Subject : Case of Syphilitic Disease of the Eye : Case of Fever—difficult diagnosis : Fibrous Tumour of the Uterus : Ovum retained Fourteen Months : Case of Laryngitis : Case of Lupus : Rare Forms of Cyst : Resection of the Head of the Femur : Cases of Apoplexy : *Profuse Salivation in a Female of eighteen years, four and a half months advanced in pregnancy : *Letter from Mr. R. Ceeley, of Aylesbury, on Primary Vaccine Lymph : Case of Poisoning by Cyanide of Potassium : Puerperal Peritonitis : False Membrane of Croup : Dry Chronic Arthritis : Fractures of the Radius (in one case longitudinal) : Strangulation from Enlarged Tonsils—Laryngotomy : Gall Stones—Ulceration of the Duodenum—Fatal Hæmorrhage : Cancer of the Breast : Sympathetic Trouble in the Ears from Disease in the Eyes.]

7. REPORTS ON THE ACTION OF COCHITUATE WATER ON LEADEN PIPES, AND THE INFLUENCE OF THE SAME ON HEALTH. By JOHN BIGELOW, M.D.
- 8.*ON THE EMPLOYMENT OF CHLORIDE OF SODIUM IN THE TREATMENT OF INTERMITTENT FEVER. By W. P. LATTIMORE, M.D.
- 9.*NEW VIEWS CONCERNING THE NATURE AND CAUSE OF TUBERCULAR DEPOSITS. By MATTHEW TROY, M.D.
- 10.*PHOSPHATE OF LIME IN PHTHISIS. By S. KNEELAND, Jun., M.D.
11. OBSERVATIONS ON THE GENERATION OF URIC ACID, AND ITS CRYSTALLINE FORMS. By S. WEIR MITCHELL, M.D.
12. REPORT OF CASES OF OPERATIVE MIDWIFERY, with the Particulars of a Novel Operation. By AUGUSTUS K. GARDNER, M.D.

13. CASE OF RESECTION OF THE SUPERIOR MAXILLARY AND MALAR BONES. By DANIEL BRAINARD, M.D.
14. ON BELLADONNA AS A PROPHYLACTIC IN SCARLATINA. By GEORGE L. ANDREW, M.D.
15. NEW SYMPTOM OF PNEUMONIA. By W. M. BOLING, M.D.
16. POISONING BY OIL OF TANSY. By W. W. ELY, M.D.
17. BONE IN THE HEART OF THE BOS. By J. L. PEIRCE, M.D.
18. CASE OF MEMBRANOUS LARYNGITIS. By W. M. KEMP, M.D.

MEDICAL AND SURGICAL NOTES OF CAMPAIGNS IN THE WAR WITH MEXICO. BY JOHN B. PORTER, M.D.

In the course of his notes, DR. PORTER opposes the employment of ANÆSTHETIC AGENTS IN OPERATIONS FOR GUNSHOT WOUNDS. He says:

"In the summer of 1847, an amputation of the thigh was performed, the patient having been put under the influence of ether, in which the hæmorrhage was almost uncontrollable. The blood spouted in all directions: and I have never seen an operation where it was necessary to secure so many bleeding vessels. Even after every small vessel that could be got at was secured, it was necessary to use cold water freely to suppress the general oozing of blood. At the time, I imputed the obstinate hæmorrhage to the pernicious influence of the ether. In gunshot wounds, anæsthetic agents are almost universally unnecessary, and are almost universally injurious. It was for this reason that they were entirely given up in the hospital at Vera Cruz.

"It may be questioned whether anæsthetics are not calculated to produce injurious effects in all important operations; but they certainly do so in operations performed for gunshot wounds. M. Velpeau says, 'Chloroform evidently depresses the nervous system; and as great prostration always exists in patients who have received gunshot wounds, it is advisable to refrain from any anæsthetic means.' Mr. Alcock refers to the case of soldiers wounded in battle, where the excitement is such as to carry them through almost any operation. These are the cases spoken of by Mr. Guthrie: 'Soldiers in general are anxious to undergo an operation where they find it inevitable, and frequently press it before the proper time; that is, before they have sufficiently recovered the shock of the injury.' These are the cases which require a little more time, some 'encouraging words', and perhaps a little wine or brandy and water; but no anæsthetics, for the patients are already sufficiently depressed.

"There are two sets of cases; in the one (Velpeau's), the shock to the nervous system is great, from which the patients may not recover, and the use of anæsthetics would be awfully destructive; in the other class, they are unnecessary, and would prove useless and injurious. In the flap operation, they must prove more injurious than in the circular, from the fact that muscle forms almost the entire covering for the stump; and the contractility of the muscular tissue is for a time almost annihilated, to be recovered irregularly at irregular intervals. Further, after the use of these agents, wounds do not heal so readily by the first intention."

From the report of the New York Hospital, in the *Transactions of the American Medical Association for 1851*, it appears that the mortality after operations had increased during the previous three and a quarter years; and that hospital gangrene, entirely unknown before, and purulent cachexia and erysipelas, had extensively prevailed. Dr. Porter asks, "Could the anæsthetics have had an influence in producing the hospital gangrene, entirely unknown before, and the purulent cachexia and erysipelas, as well as prevent union by the first intention?"

"Dr. Lente, resident surgeon of the New York Hospital, says:—

" 'In almost every case, either *chloroform* or *ether* was employed; generally the former, until the occurrence of a fatal case from it in this hospital; afterwards the latter, from which we have never had any bad consequences, and which has never failed to prove effectual. . . . Anæsthetics came into general use about the period of commencement of these statistics. May not the employment of these have had its influence upon the mortality? This is a very important question. We do not deny that it may have had some influence in augmenting the fatality of operations; but we have seen no reason to infer that it has, except perhaps the fact that *union by adhesion* seems to have been much less frequent since the introduction of anæsthetics into this hospital than before. Whether the two are in the relation of cause and effect, it is, we fear, impossible to determine at present.' "

REPORT OF TWENTY-FIVE CASES OF URINARY CALCULUS, IN TWENTY-THREE OF WHICH THE BILATERAL OPERATION WAS PERFORMED.

BY PAUL F. EVE, M.D.

DR. EVE gives the following recapitulation of his cases.

Sex. Twenty-three were males, and two females.



Race. Two were black, two mulatto, and twenty-one white.

Age. Sixteen were under thirteen years, seven between twenty and thirty-five, one at sixty-five, and one at seventy-seven.

Operation. Twenty-four were cut, of whom twenty-three by the double lithotome.

Result. Four died after being operated on, three of whom from the operation—two indirectly (supervention of erysipelas), and only one directly from it. The remaining twenty-one fully recovered. Of the nineteen first operated on, but one died; and in that instance, death was not owing to lithotomy. Seventeen were well in two weeks after the bilateral operation. In no case has Dr. Eve heard of the reproduction of stone; nor has a fistula occurred in any instance.

Number of Calculi, and their Chemical Constituents. Single in twenty-two cases, two in one case, three in another, and 117 in another. Composition, chiefly some preparation of lime. There was not the usual proportion of the uric acid formations. Of five specimens obtained in Tennessee, each contained lime; thus confirming Professor Peters' analysis of the Dudlean collection of calculi at Lexington, Kentucky. It would seem from this collection, that phosphate of lime is not so rare a component of urinary concretions as is generally supposed.

Dr. Eve employs a modification of the bilateral operation of Dupuytren. He has found that, owing to the irregularity of the external surface, it was difficult to make the crescent-like shape or the semicircular incision through the skin and soft parts. He now makes the cut like a , with a short tail. The grooved staff being previously introduced into the bladder, and the scrotum elevated by an assistant, a short incision is made directly upon the raphe of the perinæum at the bulb of the urethra, and the direction changed at a very oblique angle at the end of about three-quarters of an inch, to terminate at a point midway between the anus and the tuberosity of the left ischium. With the edge of the knife now turned upwards, it is made to penetrate and commence the other leg of the  at the point of the right side corresponding to the one just terminated upon the left. The incision is deepened as the instrument ascends; and, on arriving at the middle of the perinæum, with the edge turned directly upwards, the urethra is opened, and the groove of the staff exposed. This not only simplifies the external incision of lithotomy, but effectually guards against the liability to wound the rectum. The operation is then completed in the usual way.

CASE OF SACCHARINE DIABETES, WITH TABULAR OBSERVATIONS OF ITS PATHOLOGY, AND THE RESULTS OF TREATMENT.

BY CHARLES FRICK, M.D.

The patient whose case is described was a mulatto, aged 37, a prisoner in the Maryland Penitentiary, Baltimore. The case had been ten months under notice ; and was principally interesting on account of the statistical observations which Dr. FRICK had an opportunity of making.

At different periods, various fluids of the body were examined for sugar ; the tests employed being liquor potassæ and sulphate of copper, (Trommer's test), Moore's test, Barreswil's liquid, yeast, and nitrate of silver. The *urine* was examined repeatedly, and always contained sugar ; the amount holding a definite proportion to the specific gravity. The *sweat* was examined several times ; half a drachm collected in a spoon always gave the characteristic reaction. An infusion made by pouring boiling water on the *feces*, and then decolorised with animal charcoal, shewed sugar ; the greatest quantity was found during an attack of cholera. The contents of the *stomach* also shewed the characteristic reaction, mostly a few hours after meals ; and even when the meal had consisted of meat and eggs alone. Perhaps in the latter case its presence was due to its being in the mucus and gastric juice. *Bronchial expectoration, saliva, blood, and pus* from an abscess in the hand, all shewed the presence of sugar.

INFLUENCE OF DIET. Dr. Frick gives a table shewing the influence of diet, from which he draws certain deductions.

1. The quantity of urine is in itself no measure of the extent of the disease ; it being regulated by the quantity of fluid drank, the perspiration, the fæcal evacuations, etc. 2. In no instance was the quantity of urine passed greater than the amount of fluid drank. The relation between these in the table is very exact ; and is more or less disturbed in proportion to the number of stools and the profuseness of the perspiration. 3. The quantity of sugar is not always in proportion to the amount of urine passed. A certain quantity of sugar is to be eliminated by the kidneys ; and for this, a proportionate amount of water is required. When the patient was made to drink more or less fluid than he desired, the quantity of sugar remained the same ; the specific gravity of the urine alone undergoing alteration. 4. On five days, no sugar nor substances capable of forming it were taken in the food ; yet an average of 707 grains was passed each day by the kidneys,—thus establishing the fact, stated by Bernard, that the source of the sugar is due to some cause beyond the non-conversion of the saccharine and amylaceous articles of food. 5. But the additional proportion of these substances, as diet, influences directly the amount of sugar excreted ; and this whether the food consists of sugar alone, or of sugar and starch combined. On forty-four ounces of pure sugar, the same proportionate amount was excreted as on thirty ounces of leavened, or on thirty-nine ounces of unleavened bread.

PERIODS OF THE DAY. With regard to the amounts of sugar and urine passed at different hours of the day, Dr. Frick found that, between 12 and 7 o'clock, or immediately after the ingestion of the principal meal, the average quantity of sugar passed amounted to 3459 grains, or very nearly one-half the whole amount ; and the same was true with regard to the quantity of urine. After each meal, the quantity of sugar and of urine commenced, and went on to increase in regular progression up to the fourth hour, when it again decreased in nearly the same proportion. The table shewing these facts is based on one hundred and fifty-four separate observations.

EFFECTS OF TREATMENT FOR NINE MONTHS CONTINUOUSLY. Each medicine was continued for at least one week, and the urine examined at the end of that period. Estimating, from some rough analyses, the average amount of sugar in the stools to be 1300 grains, Dr. Frick gives the following table

as shewing the different quantities of sugar passed from the kidneys and bowels together, under the influences of certain remedies.

	Grains.		Grains.
Strychnine, 1-6 gr.	3369	Without medicine.....	14250
" 1-7 "	3565	Creasote and Naphtha	15028
" 1-10 "	6250	Cod-liver Oil, $\frac{3}{4}$ vj per week ...	15058
" 1-15 "	6425	" " $\frac{3}{4}$ x per week ...	16108
" 1-20 "	6360	Pulv. Ergotæ.....	17150
Tinct. Ferri Mur., 10 drops...	6900	Cod-liver Oil, $\frac{3}{4}$ xxx per week	20160
" " 20 " ...	8264	Whiskey.....	20504
Aqua Ammoniacæ, 5 " ...	12550	Calomel and Opium	24230
Potassii Iodidum, 3 grs.	14270	Ergot, Strychnine, and Iron	24340

Strychnine. The amount passed without medicine was obtained from the average of eleven analyses. Strychnine, therefore, exerted by far the greatest control over the amount of sugar passed in the urine and the fæces. The patient was kept under its control for various periods, amounting in all to four months. Under doses of one-twentieth of a grain, the amount was diminished to less than one half; and under one-sixth of a grain to less than one fourth. For three successive days the patient was kept upon a meat diet, with one-sixth of a grain of strychnine administered three times a day. The quantity of sugar, on the third day, was diminished to 132 grains: this was the smallest quantity ever found.

Muriated Tincture of Iron, in doses of ten drops, diminished the sugar one half; but on increasing the dose to twenty drops, a notable increase manifested itself.

Aqua Ammoniacæ. The diminution amounted to one-seventh. Larger doses were tried; but they produced so much uneasiness that they had to be discontinued.

Iodide of Potassium produced little or no effect on the secretion of sugar; but caused pain in the bowels and diarrhœa.

Creasote and Naphtha produced great inconvenience, and slightly increased the quantity of sugar.

Cod-liver Oil, in whatever dose administered, increased the quantity of sugar. When six ounces per week were taken, the difference was slight; but when increased to twenty, one-third more sugar was passed. The patient, under this remedy, always gained weight; and, except when ergot was administered, only at that time. In forty-four days, on four pounds of oil, he gained nineteen pounds.

Powder of Ergot. The patient gained in one week nine and a half pounds; but the amount of sugar increased considerably.

Whiskey greatly increased the quantity of urine, and also of sugar.

Calomel and Opium was continued for two weeks, till the patient was brought decidedly under the influence of mercury. The urine was increased, and the amount of sugar nearly doubled.

Ergot, Strychnine, and Iodide of Iron. Under this combination, the excretion of sugar was about the same as the preceding. The largest quantity of urine, forty-four pints, was passed while the patient was under this treatment.

Dr. Frick observes, that these observations show that those remedies which act directly upon the nervous system exert by far the greatest power in lessening the amount of sugar in the excretions. And, considering that the formation of this substance in the body was a natural process, and that the aim should be, not to prevent its formation, but to rouse up and strengthen the vital functions, in the course of whose normal actions it is destroyed and eliminated, he prescribed strychnine; and the result in some measure justified his anticipations. It is, he thinks, needless to restrict the patient to an animal diet; for, although the prominent symptoms ameliorate under this treatment, the patient is not really better; and, in most cases, the discomfort produced by the deprivation of saccharine and amylaceous food is not

counterbalanced by the diminished thirst and the less frequent calls for micturition.

Dr. Frick also relates another case, occurring in a lawyer, 37 years of age. He came under treatment for suppuration of the ear, for which leeches and antiphlogistic remedies were ordered. On the tenth day, he complained of some pain in the right instep; on the next day the discharge from the ear had ceased, the power of hearing had returned, and, on the following day, gout in both feet was well declared. Two days after, the gout continuing in the feet and hands, albumen was found in the urine. In two days subsequently, there was less albumen, but some sugar; after a similar period, sugar and albumen were both distinct, as well as abundance of uric acid. On the next day, the albumen had disappeared, but the sugar continued, and increased in quantity. Dr. Frick believes this to be the first case reported in which gout and diabetes have coexisted; and observes that it is certainly unusual to observe uric acid crystals in saccharine urine.

PATHOLOGY OF THE DISEASE. Dr. Frick sums up his views on the pathology of diabetes in the following statements, which he regards as expressing the whole of our knowledge of the subject. In a state of health, sugar is formed in the liver; this sugar may be secreted when only azotised food is used; in all probability it is formed from the fat, which is also produced in the liver; it is then conveyed by the blood, with any sugar that may have been taken in the food, to the lungs, and there eliminated in the form of carbonic acid and water. In diabetes, from some cause at present unknown to us, an unusual amount of this substance is formed by the liver, more than the lungs can dispose of, the surplus passing off by the different secretory and excretory organs; and although an amylaceous or saccharine diet increases the quantity, yet abstinence from those articles of diet will not prevent it from appearing in the urine and other excretions.

For many of these ideas, Dr. Frick acknowledges that we are indebted to M. Bernard. The importance of the liver as an organ of *sanguification*, as well as *deuration*, ought readily to be admitted, when we consider its large size in proportion to the rest of the body, and the complexity of its anatomical structure.

SPONTANEOUS PROFUSE SALIVATION IN A FEMALE OF EIGHTEEN YEARS, FOUR AND A HALF MONTHS ADVANCED IN PREGNANCY.

BY DR. COALE.

This case is related in Dr. MORLAND's extract from the *Records of the Boston Society for Medical Improvement*. The patient, married one year, was well in health, notwithstanding the profuse salivary discharge, by which three or four handkerchiefs were saturated in an hour and a half. The flow of saliva was constant, and very annoying; notwithstanding, she *gained flesh*, and the system did not apparently suffer. The papillæ of the tongue were very prominent, and there was some engorgement of the lining membrane of the mouth. No remedies had been of any avail.

Dr. STORER had seen but one such case in his practice. In that case, the woman, in all her pregnancies, five in number, had suffered much for two or three months, the inconvenience commencing early in each pregnancy.

Dr. JACKSON related the case of a patient, a delicate woman, who had had seven children, besides two miscarriages. Salivation came on with each pregnancy between the fourth and fifth week, and continued from four and a half months, which was the shortest, to the third day after confinement, which was the longest period. The fluid seemed to come from the mouth, and amounted in quantity to about three pints daily: being fully established within two or three days after commencing, and going off even more suddenly. It was attended with nausea, and often with vomiting; with distress

after food, and constipation. Dr. Jackson had tried to abate the salivation, but without effect.

Dr. Blundell reports one case of salivation during pregnancy in his *Principles and Practice of Midwifery*. The patient did well without interference.

ON VARIOLA VACCINA. BY ROBERT CEELEY, ESQ.

The following letter was read by Dr. Coale at a Meeting of the Boston Society. It was addressed by MR. CEELEY to Dr. Golding Bird, to whom Dr. Coale had applied for a crust direct from a cow affected with the original vaccine disease.

“AYLESBURY, December 1851.

“MY DEAR SIR: Your application on behalf of Dr. Coale, of Boston, U. S. of America, would have been most cheerfully complied with had it been in my power to do so.

“Similar applications, for crusts and charges of primary vaccine lymph, have been often made to me from various parts of Great Britain and the continent, since the publication, in 1839, etc., of my ‘Observations on the Variolæ Vaccinæ, as they appear in the Vale of Aylesbury, with an account of some recent experiments on the Vaccination, Retro-vaccination, and Variolation of Cows.’ (*Trans. of the Provincial Medical and Surgical Association*, vol. viii and x). But, I regret to say, that of late years the cows here have failed to yield me the supply of lymph and the opportunities for observation they formerly did.

“The vale of Aylesbury is now, to all appearance, barren of primary vaccine, and void of materials for observations which I would gladly prosecute, and which ten or twelve years ago occupied so much of my time.

“The milkers in general, now-a-days, have all undergone vaccination, and being thus *less* susceptible to the *severe* influence of the natural vaccine disease, are not apt to apply for surgical aid. We may therefore, for this reason, lose occasional opportunities of detecting the disease in the cow; but there can be no doubt that the true variola vaccina is now a rare disease in this locality, while the other contagious eruptive diseases of the animal, (nearly always confounded by the milkers and dairymen with it), are as common as ever.

“In my successful experiments on the variolation of the cow, and the production of the vaccine lymph, in February 1839, I furnished indisputable proof of a very interesting and important pathological fact. A fact which had long been doubtful and disputed, notwithstanding the previous experiments at ———, in 1801; by Gassner, in 1807; Sunderland and others, subsequently; and, lastly, in Thiele, in South Russia.

“But to those who thought a new stock of vaccine lymph was occasionally desirable, or who might need a supply when no other source was at hand; this pathological fact yielded additional reason for congratulation.

“Hence the lymph thus obtained by me, on two or three such occasions in that year, was much sought after, and was abundantly distributed by me over England, Scotland, Ireland, Europe, Africa, and North America (I think).

“It was kept also under my own observation for more than two years, was tested by small-pox virus and effluvia, and found equal in all respects to the Jennerian lymph of 1800.

“In December 1840, an intelligent chemist of Brighton, Mr. Badcock, thinking, with many others, that a new stock of vaccine was needed, and being, as I understand and believe, unacquainted with my successful experiments, commenced, for the above purpose, the variolation of the cow; and he was singularly successful. Having a high opinion of such lymph above that long in use, he has, for the last ten years, occupied himself in procuring it for his own use in vaccinating children, and distributing it to professional applicants.

“Being intimately acquainted with Mr. Badcock, whom I consider deserv-

ing of infinite credit for his zeal, perseverance, and great liberality, I have applied to him for a new supply for Dr. Coale. After about twenty fruitless attempts, he has at last succeeded in his endeavours, and I have now the pleasure of sending you, for Dr. C.'s use, a most liberal and choice supply. The parcel contains the following, viz. :—

"1. The crusts from a variolated cow.

"2. A glass charged from the same source.

"3. Some points charged from a splendid vesicle raised on a child's arm by some of the above primary lymph.

"All these are to be employed in the usual way ; but I generally find the most successful method is to rub the lymph on small clusters of superficial scratches of the skin (instead of puncturing it). I hope this stock, of what I first denominated *variola vaccina*, will prove successful in use.

"In regard to the vexed question of the deterioration of the current vaccine by frequent human transmission, you are aware that I have fully discussed this subject in my *Observations*, etc.

"That variolous lymph can be and has been deteriorated by a variety of causes, is indisputable. The fact is notorious in India (*Quart. Journal of the Calcutta Medical and Physical Society*, April 19, 1837). It has been proved in Paris (*Notice sur le Cowpox découverte à Passy*, par M. Bousquet, 1836). It has been demonstrated in London (*Report on Small-pox*, by Dr. Gregory, *Med. Gaz.* Feb. 24, 1830). That it may be rendered weak and inefficient by accident or carelessness, by ignorance, or something worse, every experienced vaccinator will readily allow.

"But that the above results *in temperate climates*, and with every attention and care required, are inevitable, I do not think satisfactorily proved. But the fact of actual degeneration can alone be settled by a reference to the standard of Jenner. Of the correctness of this standard no one can doubt. I have repeatedly proved it by the use, at different times, of natural and artificial vaccine, from at least fifteen or sixteen sources. If any given lymph possess the sensible properties described by Jenner in his first work ; if in the *majority* of subjects, it produces a vesicle of the normal size and form, yielding a readily infective lymph on the 8th day, after which period an areola commences and increases till the 10th or 11th, and the vesicle change into a hard dark crust on the 14th or 15th day ; I cannot see that it is possible to impeach the efficacy of that lymph. Its failure to protect from small-pox must depend on other causes. Uniform or very frequent deviations from the standard of 1800, to me would be conclusive of such a fact, and compel me to seek a new supply. Repeated observations of the constitutional effects of all the vaccine I have ever used, enable me to corroborate the assertion of Jenner, that the *primary* disturbance is slight and trifling, and that the *secondary* symptoms, attending the local erysipelatous inflammation, though often severe, are not essential to the specific influence, though they mark the completion of a process and afford satisfactory evidence of a previous important fact. As I have said elsewhere, 'My own repeated applications to the cow have been chiefly for the purpose of experimenting for the satisfaction of patients or for the accommodation of friends, not from any belief in the superior protective efficacy of such lymph over active current *humanized* lymph.'

"But when lymph is found *uniformly* deficient in infective property (Bousquet, *loc. cit.*)—vesicles abnormally rapid in their course, at their greatest development on the 7th day ; yellowish in appearance on the 8th ; with turbid lymph, central desiccation, on the 9th ; and a miserably small crust, falling on the 15th or 18th day—such lymph, or anything approaching it, ought to be rejected.

"* * * * Mr. Badcock intends contributing to the great exhibition to be held in New York, in the form of Daguerreotype illustrations of the result of some of his experiments. * * *

"To DR. GOLDING BIRD.

"Yours, very truly,

ROBERT CEELEY."

CHLORIDE OF SODIUM IN THE TREATMENT OF INTERMITTENT
FEVER. BY W. P. LATTIMORE, M.D.

DR. LATTIMORE gives the results of observations made by M. Piorry. The method of administering the chloride of sodium is to give half an ounce in a cup of thin soup, during the apyrexia and fasting. It usually agrees with the stomach perfectly well, but sometimes excites vomiting and diarrhoea. Three doses are said to commonly suffice to effect a cure; the first two being taken on succeeding days, and the third after an interval of one day. Should the spleen remain undiminished in volume by the first dose, the remedy will not cure the disease.

Is the chloride of sodium, Dr. Lattimore asks, as efficient an antiperiodic as the sulphate of quinine? Are the cures effected by the one as permanent as those effected by the other? The first question can only be answered by those who possess a large field of observation. In regard to the permanency of the cure, Dr. Lattimore believes that there is not much difference in any case—relapses being frequent. Should the discovery prove as useful and applicable as it promises, the benefit accruing will be immense. If it be capable of taking the place of sulphate of quinine in the majority, or even in one-half the cases of intermittent fever, therapeutics will be largely the gainer.

NEW VIEWS CONCERNING THE NATURE AND CAUSE OF
TUBERCULAR DEPOSITS. BY MATTHEW TROY, M.D.

DR. TROY'S views are expressed in the following summary:

"I think I have shown that the nature and importance of the secretion of the skin are sufficient to give rise, by its deficiency or suspension, to the accumulation of tuberculous matter in the blood; that in those individuals in whom consumption is hereditary, there is often a congenital deficiency of the sebaceous follicles; that the disease can at any time be produced or aggravated by causes which depress their action, and prevented or relieved by means which exalt it; that the only well ascertained product of the secretory action of these follicles is found in large amount in tubercle; and that it is deposited in precisely such situations as we would be led to suppose, upon general principles of physiology, that the retained secretions of the skin would be."

PHOSPHATE OF LIME IN PHTHISIS: MODUS OPERANDI OF
COD-LIVER OIL. BY S. KNEELAND, JUN., M.D.

After alluding to the presence of phosphate of lime in transformed tubercle, and referring to cases in which this had seemed to be promoted by cod-liver oil, DR. KNEELAND observes, that "cod-liver oil contains phosphorus in larger proportion than it does iodine, to which last substance the efficacy of the oil was formerly supposed to be due; this phosphorus, meeting lime in the system, may have been instrumental in transforming the tubercle.

"Of the influence of cod-liver oil in causing a deposition of phosphate of lime in the system, we have ample evidence from its effects in rickets; indeed, it was from its good effects in this disease that the medical profession adopted it from the Baltic fishermen, about 1824. In rickets, there is a deficiency of phosphate of lime in the bones to such an extent often that they may be bent almost like wax: the use of the oil for a few weeks acts like magic in giving solidity to the bones by the deposition of the required phosphate of lime; and this, we think, it can only effect by the phosphorus which it contains."

DEUTSCHE KLINIK.

APRIL, MAY, AND JUNE, 1852.

1. PATHOLOGICAL ANATOMY OF TUMOURS. By DR. FÜHRER. April 3, 10, 24, May 1, 15, 22, June 5, 12.
2. CASE OF FUNGUS GROWTH RAPIDLY DEVELOPED FROM THE INNER SURFACE OF THE SCLEROTIC, simultaneously with similar growths in the Lung. By DR. VON AMMON. April 3.
3. CASES OF FUNGUS MELANODES OF THE CORPUS CILIARE. By DR. VON AMMON. April 3.
- 4.* PECULIAR FORM OF HYPERÆSTHESIA OF THE STOMACH IN ANÆMIC SUBJECTS. By DR. ROSENMÜLLER. April 3.
5. CASE OF CACHEXIA FROM INTEMPERANCE, in the practice of DR. SIEBERT. April 3.
6. ON CRISES AND CRITICAL DAYS. By DR. L. TRAUBE. April 10 and 17.
7. ON THE TOO SHORT, TOO LONG, TWISTED, OR PROLAPSED UMBILICAL CORD. By DR. HOHL. April 10.
8. OPERATION FOR HERNIA: ESCAPE OF A LUMBRICUS FROM THE WOUND: RECOVERY. By DR. WUTZER and DR. SCHAUBENBURG. April 10.
9. CASES OF LUXATION OF THE ELBOW JOINT; WITH REMARKS. By DR. C. STREUBEL. April 17.
- 10.* CHLOROSIS AS A RESULT OF TOXÆMIA FROM CARBONIC ACID IN THE BLOOD. By DR. KÜCHENMEISTER. April 17.
11. CASE OF EXTENSIVE HEPATISATION OF BOTH LUNGS. By DR. M. NAUMANN. April 17.
12. CASE OF FATAL DYSPHAGIA. By DR. M. NAUMANN. April 10.
13. ON SPINTHEROMA OR SCINTILLATION OF THE EYE. By M. BLAZIUS. April 24.
14. CASES OF INTERMITTENT FEVER: CASE OF HICCUP CONTINUING NINE DAYS. By DR. M. NAUMANN. April 24.
15. YEARLY REPORT OF THE OBSTETRIC CLINIC IN THE UNIVERSITY OF MUNICH, from 1st January to 1st November 1850. By DR. HOFMANN. April 24, May 22, 29.
16. CASE OF SARCOMA ALBUMINODES OF THE CONJUNCTIVA, returning twice, and degenerating into Medullary Sarcoma. By DR. VON AMMON. May 1.
17. CASE OF CONGENITAL CYSTIC HYGROMA OF THE PERINÆUM. By DR. KILIAN and DR. LEHMANN. May 1.
18. CASE OF CARDITIS. By DR. FRERICHS and DR. BARTELS. May 1.
19. CASE OF DIABETES MELLITUS, in the practice of DR. SIEBERT. May 1 and 8.
- 20.* ON BRIGHT'S DISEASE, AND CONVULSIONS BEFORE, DURING, AND AFTER LABOUR: CASES. By DR. LITZMANN. May 8, 15, 29, June 5, 19, 26.
21. TWO CASES OF ADHERENT CONGENITAL INGUINAL HERNIA. By DR. LANGENBECK and DR. FRIEDBERG. May 8 and 15.
22. CASE OF TRACHEOTOMY IN CROUP. By DR. O. HEYFELDER. May 8.
23. TWO CASES OF AMPUTATION AT THE TIBIO-TARSAL ARTICULATION. By DR. G. ROSS. May 8.
24. CASE OF COMPLICATED DISEASE OF THE EYE, RESULTING FROM SOFTENING OF THE BRAIN at the Origin of the Fifth Nerve. By DR. VON AMMON. May 15.
25. ON THE USE OF OIL OF ANACARDIUM AS A VESICANT. By DR. FRERICHS and DR. BARTELS. May 15.
26. CASE IN WHICH THE VELUM PALATI AND BACK OF THE THROAT HAD GROWN TOGETHER, so that the Cavity of the Nares was Separated from the Mouth: Operation: Tube placed in the Wound. By DR. J. HOPPE. May 22.

27. CASE OF POISONING BY COMMON GAS. By DR. SEITZ. May 22 and 29, June 5.
28. ON NEUGEBAUER'S INSTRUMENT FOR REPLACING PROLAPSED FUNIS, and DIDOT'S APPARATUS FOR REDUCING THE FÆTUS in cases of Narrow Pelvis. By DR. HOHL. May 29.
29. ON THE EMPLOYMENT OF THE WARM BATHS AT EMS IN EMPHYSEMA OF THE LUNGS. By DR. SPENGLER. June 12.
30. CASE OF CANCER OF THE PYLORUS AND LIVER. By DR. H. W. TENDER-ING. June 12.
31. ON AMPUTATION BY THE CIRCULAR OPERATION WHEN TWO LONG BONES ARE PRESENT. By DR. G. ROSS. June 12.
32. CASE OF EXCISION OF THE HEAD OF THE RIGHT HUMERUS. By DR. G. ROSS. June 12.
33. ON DISEASES OF THE MOUTH IN CHILDREN. By DR. HAUNER. June 12.
34. TWO CASES OF REMOVAL OF TUMOURS. By DR. DANZEL. June 19.
35. CASE IN WHICH ECHINOCOCCI WERE DIAGNOSED IN THE URINARY ORGANS, probably in the Kidney, during Life, in an otherwise Healthy Man. By DR. KÜCHENMEISTER. June 19.
36. ON CONVOLUTION AND PROLAPSE OF THE FUNIS DURING BIRTH. By DR. L. KRAHMER. June 26.
37. EXTIRPATION OF AN OVARIAN DROPSY WITH THE DISEASED OVARY. Death on the twenty-fourth day from Purulent Absorption. By DR. K. HERRICH. June 26.
38. FALSE JOINT FROM FRACTURE OF THE TIBIA, SUCCESSFULLY TREATED WITH IVORY PEGS. By DR. LANGENBECK and DR. FRIEDBERG. June 26.
39. CASE OF OPEN CANCER OF THE STOMACH, WITH TUBERCULOUS DISEASE OF THE LUNGS. By DR. KENIG. June 26.

PECULIAR FORM OF HYPERÆSTHESIA OF THE STOMACH(?) IN
ANÆMIC SUBJECTS. BY DR. ROSENMÜLLER.

DR. ROSENMÜLLER relates three cases, the description of one of which will serve as a type of the rest. Two occurred in females; one in a man.

A chlorotic girl, aged 19, has been treated ineffectually for some time with iron. When she came under Dr. Rosenmüller's care, she complained of a constant feeling of oppression in the stomach, extending from the epigastrium to the left hypochondrium, without changing its situation. The part was somewhat swollen; she could scarcely bear the pressure of the clothes on it; slight pressure with the hand gave pain, while deeper pressure caused less, if the hand were soon removed. There was no vomiting; but there was occasional nausea, with flow of saliva, although the appetite was in general good, and food was only avoided because it, and even tea, milk, or water, increased the pain, even immediately after being swallowed. The patient, from being usually quiet and indolent, became restless, and would walk about and sit and lie in various positions, on account of her sufferings. Dr. Rosenmüller was at first inclined to consider the case one of inflammation of the mucous membrane of the stomach; but the absence of fever and vomiting, the state of the pulse, tongue, etc., and the continuance of the disorder for at least eight days without any other symptoms, caused him to doubt his diagnosis. Leeches, inunction, and counter-irritation rather increased the tenderness. Emollients were ineffectual; but small doses of magnesia and saffron, given at long intervals, with aperient enemata, would alleviate the disease for half a day. Narcotics had no effect on the pain, but only enfeebled the system. The pain became increased by mental emotions and by speaking for some time: towards the morning there would be some quiet sleep, and the pain would be less for a time, but would almost always return with its usual severity at an early hour of the day, whether the patient had breakfasted or not. As often as this remission occurred, which it did more

frequently under the use of the above-mentioned powder, the patient had some other manifestation of disorder. On awaking from sleep, she would complain of loss of sensation in the left side of the face, from the nose to the ear, and of difficulty of hearing : and these symptoms disappeared with the return of the pain in the gastric region. The anæsthesia could not be considered as hysterical, because other symptoms of hysteria were absent. A remission of the pain was evidently produced when there was an increased flow of urine, which generally occurred at night.

After suffering pain for fourteen days, the patient was suddenly seized with a desire for acids ; and, although earnestly dissuaded from their use by Dr. Rosenmüller, she could not resist taking some lemon juice with sugar. This immediately gave her so much alleviation of the pain, that she forthwith used large quantities of lemon juice in the form of lemonade. Under this treatment, the stomach soon became able again to bear food and medicines ; and, in a few weeks, iron could be administered. The latter, with occasional doses of rhubarb, completed the cure.

After relating the other cases, and making some observations on the pathology and treatment of anæmia and chlorosis, Dr. Rosenmüller concludes with some remarks on LEMON JUICE, of which the following is an abstract.

In directing attention to the good effects of lemon juice, he does not extol it as a specific in the cases which have been described ; but it has proved useful in many similar cases, especially when it has been necessary to obviate obstructions of the lower bowel. It has increased and supported the efficacy of rhubarb and chalybeates, and, with few exceptions, has proved tonic and calmative to the digestive organs and nervous system. Lemon juice has been extolled by Tode and Richter in habitual constipation, by Whytt in hysteria, by many in vomiting and impeded secretion of bile ; and, although it has been alleged to impoverish the blood, many have praised it as a remedy in hæmorrhages, scurvy, etc. : yet it has been but little used. In late years, it has been recommended in dropsy (Cohen) ; and its operation is here chiefly manifested by an increase in the flow of urine. Rees gives lemon juice in acute rheumatism ; he finds the effect in increasing the urinary secretion to be constant, and observes that citric acid is more tedious in operation. This failure he has ascribed to exposure of the patient to changes of weather rather than to any difference in the remedies ; but Dr. Rosenmüller also has not obtained the same effect from a solution of citric acid as from lemon juice. In order to produce any effect on the urine, citric acid had to be given in large doses ; and almost always produced disorder of the digestive organs.

CHLOROSIS CONSIDERED AS A CHRONIC TOXÆMIC DISEASE FROM
RETENTION OF CARBONIC ACID. BY DR. KÜCHENMEISTER.

Hannover and Valentin have asserted that the amount of carbonic acid expired is increased in chlorotic subjects ; Gorup-Besanez, on the contrary, states that it is diminished. The last-named observer has drawn a distinction between primary and secondary chlorosis, and has examined cases of tuberculosis, pleurisy, etc., which are often attended with secondary anæmia. For this reason, and because his observations tend to explain many of the otherwise obscure phenomena of chlorosis, and also because he theoretically furnishes a more connected picture of the nature of this affection, Dr. KÜCHENMEISTER for the most part adopts the views of Gorup-Besanez.

That the excretion of carbonic acid is diminished in phthisis, will be readily understood : First, a portion of the lung is incapable of receiving oxygen, and also of exhaling carbonic acid. Secondly, it is known that, in healthy individuals, from 10 to 25 per cent. of the oxygen inspired becomes united with hydrogen and sulphur. In tuberculosis, there seems to be a tendency

to form water in greater proportion than carbonic acid : hence arise the profuse sweats, vicarious diarrhoea, and, finally, the elimination of albumen, as shewn by albuminuria, Bright's disease of the kidney, and by the tubercular infiltration itself. Carbonic acid and its salts hold the albumen and its allied substances in solution and suspension : and when it is diminished, they are more readily precipitated.

Valentin says that the diminished excretory power of the skin in anæmic subjects is a cause of the increase of carbonic acid in the blood. This Dr. Küchenmeister doubts ; and quotes the following extract from an essay by Gerlach, published in *Müller's Archiv*, for 1851. "The skin breathes as well as the lungs ; in pulmonary respiration, oxygen is absorbed, and carbonic acid eliminated : in cutaneous respiration, the contrary takes place. The pulmonary and the cutaneous respiration are thus reciprocal, and form one perfect respiratory process : neither of them can be impeded, compatibly with health. Suppression of the pulmonary respiration produces death by suffocation ; and continued general impediment to the cutaneous respiration produces slow death by suffocation." Gerlach further says "that in cutaneous respiration, oxygen is first absorbed and carbonic acid eliminated ; and later, when the air has become irrespirable, carbonic acid (and carbon) are absorbed." The remarks of Gerlach are confirmatory of the doctrine already enunciated by Liebig, that when the atmosphere is poor in oxygen, carbonic acid is absorbed. In anæmic subjects with thin skin, we see the cheeks become red in an atmosphere rich in oxygen. Hamernijk has very happily attributed this to a local absorption of oxygen by the skin.

After stating and commenting on the opinions of Valentin and Vierordt, as to the theory of the exchange of gases, the author quotes the opinion of Liebig, that the lungs are not the seat of the formation of carbonic acid or of animal heat : but that oxydation is first effected in the vascular system : that the blood corpuscles are probably the carriers of both oxygen and carbonic acid ; that an increased quantity of carbonic acid in the air impedes the elimination of the gas from the lungs, as well as prevents the absorption of oxygen : and that air containing from .4 or .6 to 1 per cent of oxygen is incapable of supporting life. Comparing this with the analysis of the air of schoolrooms, as made by Leblanc, who found as much as .77 per cent of carbonic acid, we can readily understand how young persons are so constantly anæmic. From the observations of Dr. Küchenmeister, it appears that the ventilation of schoolrooms is very imperfectly attended to in Germany.

The result of this want of pure air is an over-loading of the blood with carbonic acid ; but, in the experiments on this point, it has not been sufficiently observed in what stage of chlorosis the patients have been. In comparing the results, it is also necessary to know whether the individual had, just before the analysis, lived in an atmosphere loaded with carbonic acid ; and also, whether the air in the rooms of the different observers contained the same quantity per cent. of carbonic acid.

Analyses of the blood of chlorotic subjects has constantly shewn a greater or less diminution of the red corpuscles. This decrease, although not a direct consequence of the retention of carbonic acid in the blood, is yet a new source of impediment to the inspiration of oxygen ; and must predispose anæmic subjects to more untoward results from an atmosphere loaded with carbonic acid, than healthy persons. Hence arise the syncope and uncomfortable feelings of chlorotic subjects in ball-rooms and other crowded places.

In accordance with these views has been the treatment of chlorosis among physicians. The indications to be fulfilled have been : 1. To promote the constantly renewed absorption of fresh air. 2. To increase the number of the blood corpuscles, by which the exchange of gases is effected, and to strengthen their property of absorbing oxygen.

ON BRIGHT'S DISEASE, AND ITS CONNEXION WITH PUERPERAL
CONVULSIONS. BY DR. LITZMANN.

Professor Litzmann, of Kiel, has published an elaborate memoir on renal disorder in pregnant and puerperal females. He commences by describing twelve cases in which albuminuria and œdema were present; some of the women had convulsions. Three of the patients were pregnant with twins; and nine (including the twin cases) were primiparæ.

In several of the cases, especially where convulsions were present, or were threatened, or where there were symptoms of toxæmia, as amaurosis, etc., carbonate of ammonia was discovered in the blood and in the air expired from the lungs, and in the blood of the children who were born dead. This was in accordance with the view of Dr. Frerichs, that urea, when accumulated in the blood, becomes converted into carbonate of ammonia, and then produces toxæmic symptoms.

We have not space to reproduce Dr. Litzmann's cases; and, therefore, pass on at once to give an abstract of his commentary. We have not yet received the numbers of the *Deutsche Klinik* containing the completion of his observations; but, in the mean time, we translate the remarks on

The Nature and Cause of Albuminuria in Pregnant and Puerperal Females. His explanation of the manner in which it is produced agrees very closely with that brought forward, three years previously, by Dr. Cormack, in this Journal. (June 1849.) Dr. Litzmann does not mention Dr. Cormack's essay, though abstracts of it have appeared in the German and French Journals.

Including the twelve cases described, Dr. Litzmann has examined the urine of 131 persons; 79 during pregnancy, 80 during labour, and 80 after parturition. In these he has found albumen present in 37, and absent in 95. The examinations began, with few exceptions, in the last three months of pregnancy: in almost all the cases they were repeated several times, and in several daily; yet it is possible that small quantities of albumen may have escaped notice. In order to avoid the admixture of foreign matters from the vagina, the catheter was used, always with parturient women and those who had been delivered, and frequently in pregnant females. In the latter, as well as in those who had been confined, the urine passed in the morning was employed. Heat, and acetic, or nitric acid, were the tests used.

Of the 95 females, whose urine contained no albumen, 53 were primiparæ and 42 multiparæ. Of the 37, who had albuminuria, 26 were primiparæ and 11 multiparæ; among the latter was one who had had albuminuria in her first pregnancy, and two who were pregnant with twins.

Among the 37 females, the urine of 16 was discovered to be albuminous during pregnancy. In ten of these the albuminuria continued during labour, and for some days afterwards; in four, where it was less intense, it disappeared before confinement; and in two cases, circumstances prevented the examination from being continued.

In four women who had been confined, and whose urine contained albumen, no examination had been made during pregnancy. There can be no doubt, however, from the quantity of albumen found, and the other symptoms, that it had been present.

In four females, in whose urine no albumen had been found during pregnancy, albuminuria appeared during labour—in two evidently for the first time.

In ten persons, in whose urine no albumen had been present during pregnancy, there was considerable albuminuria after delivery. In eight of these, the urine, examined during labour, was found to contain no albumen.

In three females who had been confined, and in whose urine albumen was found, no previous examination had been made.

There is a form of albuminuria unconnected with renal disease, but arising from catarrhal irritation or blennorrhœa of the bladder. Dr. Litzmann has observed it twice during pregnancy, several times during labour, but most

frequently after delivery. It generally appears on the second or third day, and goes on increasing till the sixth or seventh. The quantity of albumen is not great, and is connected with the presence of purulent mucus. At first, the urine after delivery is high-coloured, of acid reaction, and contains a large quantity of urates and uric acid, with epithelium and a number of pus or mucus globules. It afterwards becomes lighter and yellow in colour, slightly turbid, contains less urates, and is less acid; on long standing, it deposits a sediment of pus corpuscles with more or less epithelium. Fibrinous casts of the uriniferous tubes are never present. In only two cases was the quantity of pus in the urine sufficient to be detected by the naked eye: these were more chronic than most of the others, recovery not being effected till the eighth week.

In both these cases, which Dr. Litzmann relates, there had been, during labour, long continued pressure on the urethra and neck of the bladder; and this may have acted as the proximate cause of the disease. Yet cases very often occur, in which the same causes do not produce such effects. In most of the women affected with vesical catarrh after delivery, the disease could not be attributed to the above cause, the labours having been regular, and even easy. Dr. Litzmann is inclined to believe that slight vesical catarrh, which may not cause albumen to be present in the urine, but which may furnish a sufficient quantity of pus or mucus corpuscles to be detected with the microscope, is of not unfrequent occurrence after delivery. During and before labour the disorder is much more rare. When it occurred during labour, this had almost always been tedious, without, however, in general producing retention of urine. One of the pregnant females who were affected had rigors, and was at the same time seized with rheumatic swelling of the hands. In another, the vesical catarrh was brought on in the fourth month of pregnancy, by retroversion of the uterus. The local symptoms were generally very slight; on being questioned, the patients would acknowledge a little uneasiness or sense of heat in the bladder; but the state of the urine was generally the only diagnostic symptom. Of the 37 cases of albuminuria which Dr. Litzmann observed, he believes that half were referrible to catarrh of the bladder: this he ascertained in nine of the cases, by microscopic examination.

Simple albuminuria, and Bright's disease, (albuminuria accompanied by fibrinous exudation into the uriniferous tubes), pass gradually into each other in pregnant females. In most of the cases in which albuminuria had reached a high degree, fibrinous casts were found towards the end of pregnancy, or during labour and the early part of the subsequent period. Of the 37 cases of albuminuria, Dr. Litzmann found 13 to be connected with Bright's disease: in 7, fibrinous casts were found: in one, the urine could only be examined once, and, though not then found, they were probably present; and in five, there could be little doubt from the quantity of albumen and the concomitant symptoms—eclampsia in three cases—that they were present, although the urine was not examined microscopically.

There can be no doubt that, as has already been pointed out by Rayer, the albuminuria of pregnant females arises from a mechanical obstruction to the renal circulation. From the experiments of Frerichs, it appears that the retardation of the venous circulation on the kidneys easily produces exudation of albumen and fibrin, and finally, even of blood. On the other hand, increased arterial impulse, as from ligature of the aorta below the renal arteries, only rarely gives rise to slight albuminuria; and it is when one kidney is extirpated at the same time with the ligature of the aorta, that any notable quantity of albumen appears in the urine. In favour of the mechanical view of the explanation of albuminuria in pregnant women, may be adduced its predominance in primiparæ—a fact recognised by all observers. The tight and unyielding abdominal wall must naturally cause the uterus to press more strongly on the organs lying behind and above it.

It is moreover probable, that when albuminuria has occurred in multiparæ, it has been but a repetition of the same affection which they had as primiparæ.

In many of the cases, there were also other causes which tended to increase the pressure. Five of Dr. Litzmann's patients, who had albuminuria, were pregnant with twins; in others, there was a large quantity of liquor amnii, or a large child, or both: in one case, there were periodical contractions of the muscles, especially of the recti, pressing the uterus against the spinal column; in four cases, the pelvis was narrow. Three of the patients had chronic pulmonary catarrh. It cannot, however, be denied, that cases are often met with, in which all these circumstances are present without producing albuminuria; and, on the other hand, that albuminuria sometimes occurs, even in a high degree, without more than ordinary pressure being apparently exerted. An additional ground for assuming the dependence of albuminuria in pregnant women on mechanical impediment to the circulation, is found in the rapidity with which it disappears as soon as, by emptying the uterus, the free circulation of the blood has been re-established.

Besides the mechanical cause, we must take into account the state of the blood in pregnant women (increase of water and fibrin, decrease of albumen, diminution of the red, and increase of the colourless particles). Most of the pregnant women with albuminuria, observed by Dr. Litzmann, had a more or less chlorotic appearance: while others appeared fresh and healthy. The state of the blood did not appear sufficient to cause albuminuria, without an impediment to the circulation through the kidneys. In common with Lever, Devilliers and Regnault, etc., Dr. Litzmann has not been able to recognise cold, or the abuse of spirituous liquors, etc., as the cause of albuminuria in pregnant females.

(To be continued.)

ARCHIVES GÉNÉRALES DE MÉDECINE.

MARCH, APRIL, MAY, AND JUNE 1852.

1. ELECTRO-PHYSIOLOGICAL AND PATHOLOGICAL RESEARCHES ON THE ACTION AND USES OF THE MUSCLES WHICH MOVE THE FINGERS AND THUMB. By DR. DUCHENNE (of Boulogne). March, April, and May.
- 2.*ON CONVULSIONS DURING LABOUR AT THE FULL PERIOD: the Indications of Treatment, and the Means to be Used. By DRS. H. DUCLOS and J. BOUTEILLER, JUN. March (concluded from February).
3. MEMOIR ON THE MODIFICATIONS OF THE RESPIRATORY MURMUR IN PLEURISY, ON THE PROGRESS OF PLEURISY, AND ITS TERMINATION BY FATAL SYNCOPÉ. By M. G. THIBIERGE. March.
- 4.*CASE OF CALCULOUS NEPHRITIS, COMPLICATED WITH ABORTION: Medico-legal Inquiry. By DR. DELASIAUVE. March.
- 5.*NEW RESEARCHES ON THE CURABILITY OF CEREBRAL SOFTENING. By DR. DURAND-FARDEL. April.
6. NEW PRACTICAL RESEARCHES ON THE CAUSES, PROGNOSIS, AND TREATMENT OF DEAFNESS. By DR. MARC D'ESPINE. April. (Concluded from February).
- 7.*HISTORY OF AN EPIDEMIC OF VARIOLA WHICH PREVAILED IN PARIS, ESPECIALLY AT THE HÔTEL-DIEU, DURING JANUARY 1852. By DR. EMPIS. April.
8. ON SUBCUTANEOUS EXPLORATION OF TUMOURS: PROPOSAL OF A NEW INSTRUMENT FOR THE DIAGNOSIS OF SOLID TUMOURS. By M. BOUISSE. May.
9. ON DRESSING BY OCCLUSION IN COMPOUND FRACTURES. By M. TRASTOUR. May.
10. ON A FORM OF PARTIAL ATROPHY. By DR. LASÉGUE. May.
[Dr. Laségue describes atrophy confined to one side of the face or body, not attended by any paralysis of motion or sensation.]

11. CONTRIBUTION TO THE HISTORY OF THE ENDEMIC NERVOUS COLIC OF HOT CLIMATES, (Dry Colic, Vegetable Colic, Madrid Colic, Neuralgia of the Great Sympathetic, etc.) By DR. J. B. FONSSAGRIVES. June.
12. ANATOMICAL EXAMINATION OF THE ACEPHALIC FÆTUS. By DR. A. RICHARD. June.
13. NEW RESEARCHES ON THE ANATOMY AND PATHOLOGY OF THE PAROTID REGION. By DR. E. TRIQUET. June.

PUERPERAL CONVULSIONS DURING LABOUR AT THE FULL PERIOD.

BY DRS. H. DUCLOS AND J. BOUTEILLER, JUN.

The authors commence with a critical examination of the names which have been given to puerperal convulsions, as hysteriform, epileptiform, etc.; and, rejecting these, state their intention to be to examine in a general manner those disturbances of the nervous system which sometimes accompany labour. The truly practical physician, they observe, will endeavour, instead of seeking to treat a particular form of convulsion, to discover and remove the cause; or, if this cannot be readily done, to calm the nervous system.

CAUSES. These may be predisposing or determining. As predisposing causes are enumerated, a nervous temperament; habitual tendency to convulsions; certain states of the blood, as albuminuria, and perhaps plethora and extreme anæmia; mental emotions at the time of labour; tumours of the skull or dura mater. Under these circumstances, labour acts as the determining cause of convulsions. Other causes, again, will produce convulsions without the intervention of any other, or even of labour: as a poison in the blood, profuse hæmorrhage, etc. Some of these causes, as albuminuria, toxæmia, and mental emotions, act directly on the nervous system; others, especially labour-pains, act indirectly; and, in these cases, convulsions are to be considered as "the highest expression of exaggeration of reflex movements." The most important of the causes which act by reflex action, is prolonged labour, and in the same manner act also distension of the uterus, or of the bladder or rectum; as well as distension of the uterine orifice by a large child, severe pains, excessive irritability of the uterus, severe pains or laceration of the external genital organs, and rupture of the uterus; the presence of twins is also a cause which acts by producing distension; rupture of the uterus, and manual operations during labour, are also exciting causes of convulsions. But there must be a predisposition; for the sensibility of the uterus may be highly excited without giving rise to convulsions.

SYMPTOMS. In convulsive affections, there may be distinguished a period (1) of tonic contraction, (2) of clonic contraction, (3) of relaxation. Convulsions during labour exhibit strongly the tonic character; and DRS. DUCLOS and BOUTEILLER give a graphic description of a severe attack, in illustration of this position. The tonic state is succeeded by one of prostration. Sometimes, however, the attack is less severe; and it is from the varieties in degree presented by the elements of convulsions that authors have derived their descriptions of hysteriform, epileptiform, cataleptiform, etc., attacks.

PROGNOSIS. Convulsions during labour are perhaps more formidable than hæmorrhage. The danger is great in proportion to the number and frequency. Mauriceau justly observes, that convulsion *during* labour is more perilous than when it occurs *after*. Sometimes one convulsion adds to the already existing cause, and thus leads to another; sometimes there is but one convulsion, the cause seeming to disappear with the effect. When the neck of the uterus is very irritable, or is dilated by an over-large child, or when the pains are severe, there is reason to expect that the convulsions will terminate with labour. On the other hand, when there is profuse hæmorrhage, they may be expected to recur after labour is completed. The

life of the child is compromised, but less frequently than by hæmorrhage ; but, as severe measures are often required to hasten delivery, the prognosis must be held to be unfavourable as regards the child. If the effect of the convulsions is to hasten labour, the life of the child is less endangered. When the child dies *in utero* during convulsions, it is from impeded utero-placental circulation, and not from mechanical compression by the uterus.

Convulsions during labour sometimes leave puerperal mania, or loss of memory or of a sense ; cases have been related where patients have become deaf or amaurotic.

TREATMENT. It is not always proper to attempt to hasten delivery. When there is excessive irritability of the uterus, and the head is far advanced, we may wait for its expulsion ; but, if the convulsions are very violent, the forceps may be applied. If, on the other hand, the os is but little dilated, opiate enemata and moderate blood-letting are indicated ; and, if these do not succeed, turning is the last resource.

When the labour is tedious, without absolute inertia of the uterus, but with feeble irregular pains, and convulsions, we should ascertain that there is sufficient dilatation to permit the use of the forceps or turning, if necessary. Ergot may then be given ; and, if delivery is not effected in half an hour, turning or the forceps may be used, the former being preferable.

In convulsions connected with tedious labour from deformed pelvis, from narrowing of the vagina or vulva, from disease of the neck of the uterus, or from unusual hardness of the membranes, each of these conditions must be met by its appropriate local treatment. When the waters are over abundant, the membranes must be ruptured.

In cases of excessive distension from the presence of twins, turning cannot be employed as a general rule ; and the forceps can only be used under certain circumstances, as when the head of one child has passed the brim. Belladonna should be rubbed into the cervix, and the membranes ruptured ; slow dilatation of the os by the fingers might render the convulsions more frequent. Ergot ought not to be given.

When a tumour coexists with labour at the full term, (happily a rare case), the treatment must be conducted on the same principles as are pointed out in cases of contracted pelvis.

When the fœtus is very large, and the os well dilated, but labour does not progress, and convulsions arise, the forceps should be employed ; as also when, after the head has escaped from the uterus, there is laceration or extreme irritability of the external genital organs, producing convulsions. Rupture of the uterus must be treated according to the rules laid down in obstetrical works.

Distension of the bladder must be relieved by the catheter : of the rectum, by enemata.

Uterine hæmorrhage producing convulsions must be treated according to the usual rules ; mental emotions producing convulsions are an indication for prompt delivery.

Blood-letting, either from the arm, or by the application of leeches to the mastoid region and neck, is useful in certain cases ; but is contra-indicated in chlorotic subjects, exhausted by hæmorrhage, or worn out by gestation. Serous infiltration, connected with albuminuria, and not confined to the lower extremities, is a contra-indication. This remedy acts, the authors believe, by calming the nervous system ; and they advise it as an antispasmodic. Enemata are also useful, by unloading the intestines of fæcal matter. Derivatives and cutaneous revulsives are useless, or even mischievous. Antispasmodics often produce, if not a cure, at least some improvement ; they should be administered either in fomentation, in injections, or by inhalation. Draughts, pills, and powders, can only be given when the patient has recovered consciousness, and the power of deglutition. Opium and narcotics are by no means indicated in puerperal convulsions.

The authors are opposed to the use of ether and chloroform as anæsthetics in convulsions. Baths or cold affusions on the head are means which may prove serviceable.

CASE OF CALCULOUS NEPHRITIS COMPLICATED WITH ABORTION.

BY DR. DELASIAUVE.

DR. DELASIAUVE relates the case of a girl, aged 21, whom he found labouring under symptoms of subacute gastritis. She was about three and a half months advanced in pregnancy; and the symptoms were attributed to her having taken medicines with a view to procure abortion. She apparently recovered from the gastritis; but was shortly after delivered of a foetus, apparently of four and a half months' growth. In the next month, languor and fever, with sanguinolent urine, appeared, and a pyriform tumour was found in the left iliac region, which disappeared after an attack of purulent diarrhoea. The patient died from gradual exhaustion.

The body was examined for certain medico-legal purposes. A large calculus was found in the left kidney, which was enlarged to five times the natural size, and converted into a pouch, which contained and was surrounded by a great quantity of pus. The pouch communicated both with the abdominal cavity and with the small intestine. From the point of communication to the rectal opening, the intestine was congested and scattered with small ulcerations.

NEW RESEARCHES ON THE CURABILITY OF SOFTENING OF THE BRAIN. BY DR. DURAND-FARDEL.

DR. DURAND-FARDEL observes that recovery from cerebral hæmorrhage, and from softening of the brain, are well ascertained facts. There is, however, a difference in the progress of the two diseases. In hæmorrhage, if the effused blood does not soon destroy life, cure or reparation commences by the absorption of the blood, the formation of a membrane, etc. The disease has attained its greatest development, and begins to diminish. The tendency of softening, on the other hand, is at first to increase; and its cure or decrease is only after a succession of changes, of which hæmorrhage offers no examples. Softening sometimes, indeed, simulates the rapid development and the decreasing progress of hæmorrhage; but this is due to the general congestion which often at first accompanies it.

When softening has passed into the chronic stage, the symptoms which attend it are connected, as in hæmorrhage, with destruction of a portion of the cerebral fibres,—due in one case to sudden laceration, and in the other to gradual disorganisation.

Dr. Durand-Fardel relates several cases, which lead him to the following conclusions.

Cerebral softening, when arrived at the chronic stage, may undergo cure like hæmorrhagic effusion—by a process of limitation and absorption of the softened matter, analogous to the absorption of a clot. But this absorption, which at last produces ulcerations of the surface of the brain and cavities, or large losses of substance in the interior of the organ, succeeds to transformations, of which the most important are, *yellow patches* on the surface of the brain, and *cellular infiltrations* in the medullary substance.

With regard to the symptoms, patients have during life presented symptoms of severe disease, from which they have entirely recovered, or of which they have retained traces exactly similar to those which attend the cicatrization of hæmorrhagic clots. On *post-mortem* examination, we find softening, which sometimes seems to have remained stationary for a longer or shorter period, sometimes is transformed, and presents marks of reparation or cicatrization. Sometimes, again, the nature of the anatomical change is con-

firmed by the symptoms; sometimes, the origin of the symptoms is proved by the nature of the change.

The cases in which life has continued for years with slight paralysis, as if from a cured hæmorrhagic clot, or those in which all symptoms have disappeared after an uncertain period, prove, whatever be the character of the lesions subsequently found, that cerebral softening has not that fatal progress which is commonly attributed to it; that the prognosis usually formed ought to be modified; that, in an individual affected with cerebral softening, the symptoms may entirely disappear, or, more frequently, diminish and become limited.

The author, in concluding, acknowledges that he is not the first who has pointed out the possibility of recovery from cerebral softening: this has already been done by Andral, Cruveilhier, Lallemand, Carswell, and Dechambre.

ACCOUNT OF AN EPIDEMIC OF VARIOLA WHICH PREVAILED IN
PARIS DURING JANUARY 1852. BY DR. EMPIS.

In some of the cases, DR. EMPIS describes the variolous eruptions as having been preceded in some cases by an eruption, sometimes resembling measles, sometimes scarlatinoid.

After three or four days of premonitory symptoms, the trunk, and some parts of the limbs, became the seat of an eruption of small, rosaceous, irregularly round spots, not projecting above the skin, disappearing for an instant on pressure, and forming, in some parts of the abdomen and upper part of the thigh, irregular patches, as in certain cases of very confluent measles. Most commonly, these patches were small and discrete on the limbs, and always numerous on the face. This morbilliform eruption differed from true measles in several characters. It was much more rapid in its progress, and arrived at its highest degree of intensity in a single day, and disappeared in as short a time, without leaving that marbled appearance of the skin which frequently follows measles. At this time, the variolous eruption would appear, and run through its usual course; but it is worthy of note, that in all those cases preceded by the measly eruption, the pustules were discrete, and sometimes abated before arriving at complete suppuration.

The two eruptions, Dr. Empis believes, are due to the same specific cause. The symptoms of invasion were more those of variola than of measles. The mucous membranes were almost entirely free from the morbilliform eruption; the conjunctivæ were scarcely injected; there was no coryza, sneezing, nor congestion of the buccal mucous membrane. Bronchitis also, so constant a phenomenon in measles, was absent in the eruption described above.

Measle-like eruptions are produced by various causes, such as bad food, cod-liver oil, syphilis, etc., and can only be diagnosed by a careful attention to the cause, antecedents, and symptoms of the eruption.

In two cases, Dr. Empis observed the small-pox to be preceded by an eruption resembling scarlatina. Angina, however, was entirely absent; nor was there desquamation, as in scarlatina.

GAZETTE MÉDICALE DE PARIS.

JUNE 1852.

1. IS THE INDUCTION OF PREMATURE LABOUR INDICATED IN CASES OF OBSTINATE VOMITING IN PREGNANT FEMALES? By DR. STOLTZ. June 5.
2. NEW AFFECTION OF THE LIVER IN CHILDREN, CONNECTED WITH CONGENITAL SYPHILIS. By DR. A. GUBLER. June 5.
- 3.*STYPTIC WATER OF M. PAGLIARI. By DR. SÉDILLOT. June 5.

4. CASE OF OSTEITIS OF THE FEMUR AND TIBIA : White Swelling of the Knee : Abscess in the Popliteal Spaces, penetrating into the Joint : Ulceration of the Popliteal Artery : Death from Hæmorrhage : Post-mortem Examination. By M. E. LEUDET. June 5.
5. ON THE PRESENCE OF NITRIC ACID AND AMMONIA IN RAIN WATER, and its possible consequences on Health. By MM. BROCHIN and DECHAMBRE. June 12.
6. ON SUFFOCATIVE ATTACKS IN CHRONIC LARYNGITIS. By MM. BROCHIN and DECHAMBRE. June 12.
- 7.*NEW RESEARCHES IN HÆMATOLOGY. By MM. BECQUEREL and RODIER. June 12, 19, 26.
8. ON THE HYDROTHERAPIC TREATMENT IN SURGICAL DISEASES. By DR. GILLEBERT-DHERCOURT. June 12.
9. CASE OF PUERPERAL CONVULSIONS : VENESECTION ! SPONTANEOUS DELIVERY : RECOVERY. By DR. S. MARCEL. June 12.
10. ON SPRAIN OF THE FOOT AND ITS TREATMENT. By M. BAUDENS. June 19, and 26.
11. DOES THE PNEUMOGASTRIC NERVE INFLUENCE ABSORPTION IN THE STOMACH ? By M. DECHAMBRE. June 26.

THE STYPTIC LIQUOR OF PAGLIARI. BY DR. SÉDILLOT.

DR. SÉDILLOT points out the following circumstances as indicating the use of a styptic liquor prepared by M. Pagliari of Rome.

1. When the arteries are friable, a ligature cuts through them before they are obliterated, and consecutive hæmorrhage is produced. If the vessel is tied again, the same events occur : and patients have sometimes died after the ligature has been applied three times unsuccessfully. In such cases, the use of pledgets of charpie dipped in M. Pagliari's liquor appears to be indicated. 2. The styptic liquor ought to be tried, before tying the larger artery, in cases where the wounded vessel cannot be easily reached ; as in wounds of the palmar arch, hæmorrhage from the pharynx, etc. 3. It might be employed when an artery has been wounded during an operation, and cannot easily be reached. 4. Also when there are numerous small retractile arterial twigs on the surface of a wound. 5. Venous and capillary hæmorrhage present the same indications.

NEW RESEARCHES IN HÆMATOLOGY. BY MM. BECQUEREL AND RODIER.

MM. BECQUEREL and RODIER have examined the changes produced in the blood in various diseased states ; and have given the result of their labours, in a memoir read before the Academy of Sciences in Paris, on May 31, 1852.

The diseases which come under notice in the first part of their memoir are, 1. Anæmia and chlorosis ; 2. Bright's disease ; 3. Dropsies which appear connected with an alteration in the blood ; 4. Organic diseases of the heart ; 5. Scurvy. In the second part, they propose to examine the modifications which the blood undergoes, 1, in the phlegmasia ; 2, in puerperal diseases ; 3, in diseases of the brain ; 4, in some other acute diseases.

ANÆMIA AND CHLOROSIS. In anæmia, the specific gravity of the blood is low (average 1049·93) ; the red corpuscles are diminished (100·13 instead of 128) ; the solid constituents of the serum are not changed ; the fibrin is increased (3·72 instead of 3). These results were arrived at from the examination of ten individuals. In chlorosis, the quantity of globules was found to vary, in six cases, from 45 per 100 to 109 ; the fibrin varied from 3·06 to 5·01 ; albumen was present in its normal proportions.

MM. Becquerel and Rodier lay much stress on the distinction between anæmia and chlorosis. They consider this subject under the head of, 1,

causes ; 2, mode of development ; 3, symptoms ; 4, physical signs ; 5, composition of the blood ; 6, progress and duration of the disease ; 7, treatment. The principal distinctive features are the following.

Chlorosis appears gradually, without apparent relation to any cause: anæmia is the immediate result of some debilitating influence. In chlorosis, nervous symptoms predominate ; the skin is of a yellowish green tint ; disturbance of the catamenial function is almost always present : in anæmia, the nervous symptoms are secondary, and principally consist in debility and lassitude ; perverted sensations are rare, and, when they occur, are less intense than in chlorosis ; menstrual disorders may be entirely absent (putting aside anæmia resulting from uterine disease) ; the loss of colour in the skin is not generally accompanied by the yellowish green tint. In chlorosis, there is often a murmur at the base of the heart, accompanying the first sound, and heard along the aorta ; this is often absent ; but, in anæmia, it is always present. In chlorosis, the venous murmur is more frequent than in anæmia ; and musical bruits are much less frequently heard in anæmia than in chlorosis. In chlorosis, the composition of the blood may not be materially changed ; and when it is, it may not be in proportion to the symptoms : in anæmia, the change in the blood is constant, and the intensity of the symptoms is in direct relation with such change. In chlorosis, the quantity of fibrin is generally increased ; in anæmia, it is diminished. Chlorosis, when left to itself, is often of long duration ; anæmia tends to recovery when the cause is removed. In chlorosis, the principal indication is to give chalybeates ; and the secondary indications are, to act on the mental feelings, and to attend to the influences of dwelling, aeration, and food. In anæmia, the principal indication is the removal or diminution of the cause, whenever this is possible : hygienic treatment is next in importance ; while quinine and iron are less likely (except when the anæmia results from hæmorrhage) to be of service than in chlorosis.

BRIGHT'S DISEASE. In the acute stages (acute congestion of the kidney), MM. Becquerel and Rodier have examined the blood of fifteen persons. The quantity of albumen is diminished, more so as the disease advances : and the specific gravity of the blood decreases in proportion. The extractive and fatty matters are somewhat increased : milky serum was found in two of the cases. This state of the serum they believe not to be due to fat, but to a peculiar condition of the albumen.

In the treatment, general and local bleeding were employed successfully in most of the cases ; diuretics are hurtful, by increasing the renal congestion. Vapour baths seem useful in removing the consecutive dropsy ; and cinchona, with a nitrogenous diet, will give strength to the impoverished serum. Chalybeates are perfectly useless.

In the chronic form of Bright's disease, the specific gravity of the blood is lowered from 1060 to 1045·6 ; the red corpuscles are also diminished ; while the fibrin is increased : the albumen is much diminished.

DROPSIES. These may depend either on obstacles to the circulation, in which case, there is no necessary change in the blood ; or they may arise from a diminution of albumen in the blood. The latter form may be divided into two groups, *cachectic dropsies*, arising from Bright's disease, insufficient food, long continued losses of blood, as from hæmorrhoids, and chronic diarrhœa, cancerous cachexia, and paludal cachexia ; and *acute dropsies*, as from suddenly suppressed menstruation, scarlatina, prolonged chills, sleeping on the ground, etc.

In the treatment of cachectic dropsy, the first indication is to remove the cause, when possible. Hæmorrhages, fluxes, and diarrhœa may be arrested, or even cured ; want of food may be repaired ; privations and unhealthy dwellings may be remedied. But in some cases, the removal of the cause is more difficult : for instance, in paludal cachexia, the patient must be withdrawn from the malarious influence, and its effects must be counteracted.

Sometimes the cause of the dropsy cannot be removed, as when hæmorrhage depends on an organic disease—cancer, for instance.

Cinchona in various forms, and bitter tonics, especially gentian, are most useful: iron is also indicated when there is much loss of colour, and when there are vascular bruits, or when analysis has directly shown a diminution of red particles in the blood. The use of tonics must be continued for some time. Stimulant frictions may be employed; they tend to favour the absorption of the effused fluid in the subcutaneous cellular tissue. If it becomes necessary to treat the dropsy in a direct manner, purgatives are too debilitating: diuretics are not trustworthy: but vapour baths may be had recourse to with benefit. The hygienic treatment consists in a generous diet, warm clothing, moderate exercise, and habitation in a mild climate. In acute dropsy, if albumen be found in the urine, and there are fibrile symptoms, general bleeding almost always reduces the quantity of albumen, and arrests the course of the dropsy. The application of leeches or cupping-glasses to the region of the kidneys is also sometimes of service. To remove the dropsy, purgatives may be used with less inconvenience than in the cachectic form; but dry vapour baths are preferable. Diuretics are objectionable; stimulant frictions may be employed with benefit. To raise the quantity of albumen, cinchona and bitters are often useful; but, as the diminution of albumen is not so great as in cachectic dropsies, the proper employment of hygienic measures is almost always sufficient to bring it back to its normal proportion.

L'UNION MÉDICALE.

MAY AND JUNE 1852.

1. CLINICAL LECTURES BY M. DENONVILLIERS. ON FRACTURE OF THE LOWER END OF THE RADIUS. May 1 and 20.
- 2.*EXPERIMENTS ON DIGITALINE. By MM. ANDRAL and LEMAISTRE. May 1 and 4.
3. CLINICAL LECTURES ON DEVIATIONS OF THE UTERUS. By M. VALLEIX. May 4, 13, 22, 25, 27, June 8, 10, 19, and 29.
4. CAUTERISATION OF THE URETHRA FROM BEFORE BACKWARD; circumstances in which it should be employed. By M. LEROY D'ETOILLES. May 8.
5. ON THE USE OF IODIDE OF POTASSIUM IN CERTAIN CASES OF SCIATICA AND RHEUMATISM OF SPECIFIC ORIGIN. By DR. J. A. GÉRARD. May 13.
6. CLINICAL LECTURE ON PROGRESSIVE GENERAL PARALYSIS. By M. SANDRAS. May 15 and 29, June 17.
7. ON HYPERTROPHY OF THE TONSILS, AND ITS TREATMENT IN CHILDREN. By M. GUERSANT. May 15, June 5.
8. ON THE USE OF SEA-SALT IN INTERMITTENT FEVER. By DR. ANGELON. June 1, 3.
9. ON THE SUBSTITUTION OF OXIDE OF ZINC FOR OXIDE OF LEAD IN THE ARTS. By M. RICHELLOT. June 8, 10, 15, 19, and 22.
10. CASE OF DISLOCATION OF THE CRYSTALLINE LENS. By DR. COMPÉRAT. June 15.
- 11.*ON THE ABORTIVE TREATMENT OF ACUTE ANGINA TONSILLARIS. By DR. HERPIN. June 24 and 26.
12. NEW CASE OF TRANSMISSION OF GLANDERS FROM THE HORSE TO MAN. By DR. LAFONT GOUZI. June 26.

EXPERIMENTS WITH DIGITALINE, PERFORMED BY M. ANDRAL IN THE HÔPITAL DE LA CHARITÉ IN 1850. BY DR. LEMAISTRE.

In this memoir, DR. LEMAISTRE describes, first, the nature of the cases experimented on; second, the mode of administration of digitaline; thirdly, the various effects produced; and, lastly, draws some conclusions as to the therapeutic effects of the drug.

NATURE OF THE CASES. Nineteen patients were experimented on, viz.; several cases of chronic heart-disease; one of albuminuria; one of anæmia with intermittent fever: two of phthisis; one of acephalocyst of the pleura, with all the signs of extensive pleural effusion; two of acute pleurisy; two of acute rheumatism: one joint only being affected in one case, and several in the other.

MODE OF ADMINISTRATION. The digitaline was given in granules, according to the formula of M. Quevenne: each granule containing a *milligramme* ($\cdot 015$ of a grain). One granule, sometimes two, was first given in twenty-four hours; and the number was gradually increased to four. Six or seven granules in the day produced toxic symptoms: in one case, that of a youth of fifteen, obstinate vomiting was produced after two granules had been given. Commonly, it was on the third or fourth day, and after giving two or three granules per diem, that vomiting, diarrhoea, and cephalalgia were produced. In other cases, five, six, or seven granules have been taken in the twenty-four hours without inconvenience: and, in two cases, ten and twelve were taken. The duration of treatment has varied from a few days to one or two weeks. The greatest number of granules administered during a course, has been, in five cases, respectively 23, 33, 44, 50, and 88,—the latter including two courses.

ACTION OF DIGITALINE. CIRCULATION. The following table shews the action of digitaline in lowering the frequency of the pulse.

Case.	Minimum of Pulse before treatment.	Minimum of Pulse during treatment.	Difference.
Disease of heart ...	108	68	40
Ditto ...	92	72	20
Ditto ...	80	68	12
Ditto ...	76	51	25
Ditto ...	104	100	4
Ditto ...	64	60	4
Ditto ...	44	44	0
Ditto ...	76	58	18
Phthisis ...	84	76	8
Ditto ...	68	64	4
Pleurisy ...	108	100	8
Ditto ...	108	116	—
Hydatid of pleura ...	100	96	4
Rheumatism in one joint	96	80	16
„ in several joints	96	80	16
Anæmia ...	80	76	4

Some writers have described a much greater effect as being produced on the pulse than is shown in these tables; this has probably arisen from their having adopted, as a normal standard, the pulse of the patients at their first visit, and when they were excited by the presence of the medical attendant. Dr. Lemaistre observes that this will sometimes make a difference of twenty pulsations in a few minutes: and a great difference may even arise in a few moments. M. Andral did not give the digitaline until he had ascertained the state of the pulse by repeated examinations during several days.

The author (from the small number of observations) does not venture to recommend digitaline for its effect on the pulse, except in heart-diseases; in which, by calming the circulation, it renders the pulse regular where it was before irregular. Very small doses will often produce this effect.

DIGESTIVE ORGANS. The tongue almost always remained moist, without fur. The appetite and thirst were not influenced, except when poisonous effects were produced; then the desire for food was lost. During the first days of administering the digitaline, no effect was produced on the stomach. After a certain time, slight pain occurred: and, on the next day, there was nausea, sometimes followed by vomiting, usually abundant and mucous, and continuing for some hours, or even an entire day. These effects did not generally follow immediately after the administration of the medicine. The almost uniform coincidence of cerebral disturbance with these symptoms leads to the belief, that the gastric disorder was in a great measure sympathetic. There was, however, probably some direct effect on the intestinal mucous membrane. At first, there were borborygmi; the abdomen at the same time became somewhat distended, then slight spasmodic pains were felt; diarrhoea at last appeared, but was always scanty, and was preceded sometimes by colicky pains. All these symptoms soon disappeared, on ceasing the use of the medicine. Four or five granules *per diem* generally produced the disturbance of the digestive organs; in some cases, no such phenomena were observed.

RESPIRATION. In diseases of the heart, as soon as the calmative effect on the circulation was produced, the respiration, which had been oppressed, short, and anxious, became easy, full, and normal. In a case of phthisis, the patient said that his pulsation had become easier. But what conclusion can be drawn from a single case? In one or two cases, the respiration was disturbed; one patient complained of a sense of weight behind the sternum, of a kind of oppression which obliged him to sit up at night, the expectoration being at the same time impeded. These symptoms were evidently connected with cerebral disorder. MM. Andral and Lemaistre have not found much worthy of notice in the action of digitaline on respiration.

KIDNEYS. In most of the cases, the patients passed urine more frequently; but it does not follow that the quantity of urine was always increased. In two cases of disease of the heart, and in the two cases of pleurisy, there was no increase in the quantity of urine. In the case of pleural hydatid, a little more urine was passed. In two cases of heart-disease, in one case of phthisis, and in the case of albuminuria, the quantity was doubled, tripled, or even quadrupled: the urine at the same time became pale, and the specific gravity fell from 1012 and 1016 to 1008, 1004, and 1003. The diuretic effect was first observed on the third or fourth day; it continued two or three days, then rapidly decreased, and ceased entirely in some days, notwithstanding the continued use of the medicine. The diuresis was most abundant where there was œdema of the cellular tissue, which disappeared in a few days; while, in pleural effusion, the digitaline had little or no effect. The indications for the use of digitaline are then the same as for hydragogue purgatives; these succeed in cases of dropsy connected with albuminuria or heart-disease, but fail in dropsy from local causes, as hydrothorax, hydropericardium, encysted dropsies, etc.

To obtain the diuretic action of digitaline, a full dose is generally required, and it must be given for three or four days. The authors believe that the digitaline does not act directly on the kidneys, but that it augments their secretion by lowering the circulation.

NERVOUS SYSTEM. In several patients, no effect was produced; but, in a large number of cases, the patients slept from a quarter of an hour to three hours during the day, although they had slept as usual during the night. This sleep appeared only at the commencement of the treatment, and was not perceived in a few days. The sleep was calm, and in no way fatigued the patients; it arose from the direct action of the digitaline on the brain. In other cases, there was merely some lassitude. But at a later period, when toxic phenomena, as disturbance of the stomach and intestines, appeared, then there sometimes occurred a heavy sleep, from which the patients awoke

suddenly, and which fatigued them much. This was much less frequent than the first described form.

The other most frequent disturbances of innervation were the following. The patient at first experienced general *malaise*; the head felt heavy; sleep, instead of being increased, was not only diminished, but even disturbed by frightful dreams, or even abolished, and replaced by constant restlessness. These symptoms were soon followed by cephalalgia lasting for several hours, with disturbance of vision: diplopia occurred in one case. Flashes of heat, and vomiting, were then observed. In a more advanced stage, the patients experienced vertigo; in other cases, there was extreme debility, and even fainting. In one case, the intellect was weakened, the countenance was dull, and questions were answered slowly. All these symptoms occurred only after the digitaline had been taken four or five days, and when the daily dose had been increased to four, five, or six granules. In one case, ten granules *per diem* produced no effect; while in another, two granules gave rise to symptoms of poisoning; but these were exceptional cases.

The disorders of innervation, like those of digestion, ceased or disappeared when the medicine was discontinued.

CONCLUSIONS. Digitaline may be administered with benefit in cases of chronic heart-disease, where the pulse is elevated and the circulation irregular; and in cases of dropsy arising from disease of the heart, or from an alteration in the blood. The effects over the circulation and renal secretion have been obtained by three granules a day; and four or five granules have produced toxic accidents: hence it is best not to give more than three granules, except in some rare cases. Instead of granules, an alcoholic solution may be employed, containing about three *milligrammes* in thirty drops. The action of digitaline seems nearly the same as that of digitalis, with the advantage of producing less irritation of the digestive mucous membrane, and being more uniform in strength.

ON THE ABORTIVE TREATMENT OF ACUTE ANGINA TONSILLARIS.

BY DR. HERPIN.

DR. HERPIN, of Geneva, employs cauterisation, with solid nitrate of silver, as an abortive remedy in acute tonsillitis.

This is an ordinary practice, and has been long followed, in chronic enlargement of the tonsils. Dr. Herpin was led, about twenty years ago, to apply nitrate of silver as a means of preventing the recurrence of angina tonsillaris in persons subject to it. In 1848, while treating a patient in this way, he one day found mild acute tonsillitis present; he at once applied the caustic, and the disease had disappeared on the next day. He has subsequently proceeded to treat in the same manner more severe cases, and almost always with success. A third application, on the third day, was sometimes required; but it has never been necessary to go beyond this. In nearly all cases it has arrested the disease before proceeding to suppuration.

If the patient is seen within the first twenty-four hours, a single application of the caustic will often be sufficient. If not seen till the second day, two applications, with the interval of a day between each, are almost always required. A third cauterisation is sometimes required; but even then an improvement has been produced by the first application.

Dr. Herpin makes some cautionary remarks, not to allow the nitrate of silver to fall into the throat. Should such an accident happen—which is very improbable, if proper precautions be used—vomiting should be provoked by the injection of large quantities of warm water, with common salt.

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7. EXTRACTS FROM CLINICAL LECTURES. BY PROFESSOR SYME.
[The Lectures were delivered in May and June: and the topics to which the extracts refer are: 1. Stricture of the Urethra: 2. Amputation at the Ankle: 3. Dislocation of the Ankle Joint.]
8. ON HELMHOLTZ'S SPECULUM FOR EXAMINING THE RETINA IN THE LIVING EYE. BY W. R. SANDERS, M.D.
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[A variety of interesting cases and remarks are given. A case of Sudden Death by Aconite is quoted in a subsequent page.]
- 10.*INSANITY AMONG THE INHABITANTS OF BENGAL. BY THOMAS A. WISE, M.D.
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[Five successful Cases are described.]
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[This is a full Report of the Cause which was alluded to by us at p. 783 of last Number.]

TREATMENT OF STRICTURE OF THE URETHRA BY EXTERNAL INCISION. BY MR. FIDDES.

MR. FIDDES details two cases in which he performed Mr. Syme's operation with success in Kingston, Jamaica. After some remarks strongly in favour of External Incision, he goes on to remark that the strictures met with in hot climates seem to be *more extensive* than those which surgeons have to encounter in temperate regions. Speaking of the two cases which he describes, he says:—

"In both cases, the whole perineal portion of the urethra was extremely contracted, and the texture surrounding it so thickened and indurated, that

it felt like a piece of rope when examined externally. From two to three inches of urethra were incised in the operation. Such extreme cases do not occur frequently, but their successful termination, without an untoward symptom, shows the soundness of the principle upon which their treatment was conducted. Tight and narrow strictures, involving an extensive portion of the canal, appear to occur very rarely in temperate climates, at least European surgical writers have estimated their greatest length at one inch; and Mr. Syme, in reference to this point, says, 'my commentators, who speak of long incisions in the perineum, and laying open the urethra to the extent of several inches, have no warrant in anything I have said or written on the subject. I never open the urethra beyond the extent of an inch, and seldom beyond that of half or two-thirds of an inch.'¹ The experience of this eminent surgeon, who has operated upon more than fifty patients, drawn from the most severe and intractable cases in Britain, must be considered as decisive of the extent or length of the strictures which there occur. In this country, however, I have met, not unfrequently, with narrow and tight strictures much more extensive; and several medical men with whom I have spoken on this subject, have confirmed the observation. This peculiarity may be, perhaps, owing partly to the indifference and neglect with which this half-civilised population are wont to treat all diseases; but another explanation of it may be found in the fact that purulent discharges from the genitals are particularly obstinate and intractable in tropical climates, and the common cause of stricture being gonorrhœal inflammation, it may be readily understood how this morbid action may, by long continuance, spread backwards along the canal, and produce organic change in a great portion of its tract. The cases described below show likewise that the perineal portion of urethra may be freely incised, when stricture or other causes render it necessary to do so, and that no dread need be entertained as to the healing of a clean incised wound in this situation, as the whole region possesses a sufficient depth of soft parts to constitute a bed for the support and organisation of the reparative material which is thrown out by the cut surfaces of the wound. The portion of urethra, anterior to the scrotum, might not permit the same freedom to be used, as the tube there has but a thin covering, which might not be adequate to repair so extensive a solution of continuity in its walls. In this situation, however, I have never encountered any other than the short form of stricture, which has yielded always to dilatation."

OCCASIONAL EPIDEMIC ORIGIN OF FURUNCULOUS ERUPTIONS.

BY DR. KINGLAKE.

DR. KINGLAKE advances, as an admitted fact, that "the localities in which the furunculous eruptions prevailed, were those in which a malignant form of scarlatina existed immediately previous to its first outbreak"; and he adds:—"seeing that certain animal poisons do oftentimes create in the individual, as one of the ordinary or ulterior effects of their agency, a disposition to the formation of boils and carbuncles, as observed during or subsequent to the course of many febrile diseases, more particularly of the exanthemata, it is not, perhaps, unreasonable to suppose (presuming that such furunculous eruptions correctly represent the localization of the dregs or diluted form of the original poison), that one or other of such animal viri, acting epidemically, may, after expending its strength upon the more ready recipients of its virulence, and suffering thereby certain changes in the nature of its morbid affinities, fasten afresh upon other subjects, and upon other tissues of a less vital character, thus giving rise to an epidemic visitation of the nature above described."

We find, in our experience of the last four years, many facts which strongly support the views of Dr. Kinglake, to which we are anxious to call attention.

¹ Monthly Journal, June 1851.

SUDDEN DEATH BY POISONING BY ACONITE. BY PROFESSOR BENNETT.

The case occurred in the Royal Infirmary of Edinburgh, in a patient under treatment for abdominal aneurism.

DR. BENNETT'S case well illustrates the action of a substance which in a large dose is a terrible poison, and in minute quantities is occasionally a safe and valuable medicine. We may remark, that we have seen most alarming symptoms caused by five minims of the tincture, though that dose is quoted as a proper one in many of the common books on the administration of medicines. The following is the history of the case :—

“On Monday, May 31st, about eleven o'clock in the morning, the attention of Mr. Broadbent, (now resident clerk), and of Dr. Murchinson, (resident clerk), both of whom were at the time in the ward, were directed to Smith by a groan or cry. He was then observed to be sitting up in bed, leaning forward, and groaning like a man labouring under colicky pains. Mr. Broadbent, who was nearest at the time, went to his bed-side, and asked, ‘What was the matter?’ Smith made no immediate reply, but continued to groan, and moved his arms in a feeble manner, and it was noticed by Mr. B. that his hands dropped considerably when the arms were raised. He then tried to reach the spit-box, but not being able to do so, it was given to him, and he seized it, raised it to his mouth, and spit into it. He then said, with short pauses between his words, ‘Is there anything wrong with my face?—it is very painful; what medicine have I been taking?’ On being asked to point out the bottle on the shelf, he did so, saying, ‘that little bottle there.’ On looking at it, Mr. Broadbent saw by the label that it was a liniment, composed of *Tr. aconiti* ʒss, *lin. saponis c. opio* ʒjss. Dr. Murchinson, on being informed what had happened, also went to Smith, found him pulseless, and on letting go his arm, observed that it fell down powerless at his side. Smith then repeated more than once, ‘Can nothing be done for me?—What can you do for me?—Can you get me a vomit?’ etc. An emetic of sulphate of zinc was immediately sent for, and it was further observed that the pupils had undergone no marked change, that there was no lividity of the lips or other part of the countenance, that no impulse could be felt in the cardiac region, and that the respiration was more slow and laborious than usual. Dr. Murchinson now left the patient to get a stomach-pump, and Mr. Broadbent saw Smith retch twice, as if endeavouring voluntarily to vomit. He therefore went into the side-room to get a feather, or some object to tickle his fauces with, but was immediately summoned back by the intelligence that Smith was worse. On returning to the bed-side, he found that the patient had fallen on his bed, the head thrown back, face and lips remarkably pale, a little saliva running from the corner of the mouth, the respirations occurring at long intervals with gasping, the pupils neither dilated nor contracted, and the eyelids paralysed, when opened remaining fixed, and not contracting on blowing into the eye. He was now insensible, and consequently the emetic, which now arrived, could not be given. About a minute after, Dr. Murchinson, on hurrying back with the stomach-pump, found him dead. Notwithstanding, more than a pint of semi-pultaceous matter was immediately drawn off from the stomach, smelling strongly of the liniment, and artificial respiration was kept up in vain for five minutes.

“The period that elapsed from first noticing Smith's cry or groan, until Dr. Murchinson's return, when he was dead, is differently estimated by the two gentlemen concerned at five and seven minutes. The liniment consisted originally of *liniment. sapon. c. opio* ʒjss, *tr. aconiti* ʒss, and it is believed that the whole of this quantity, (viz., two fluid ounces), was in the bottle when Smith began to drink it. There were found in the bottle afterwards ʒv remaining; so that the presumption is, that he swallowed three drachms of laudanum, and upwards of two drachms of tincture of aconite.

“Whether Smith's death arose from accident, or whether he committed suicide, is not likely ever to be known. Those who knew him best in the

ward, as well as the nurse, are of the latter opinion, based principally on the character of the man, which was such as to prevent his mistaking a liniment for a draught. It seems, also, that no one was more habitually careful as to the medicines he took, that the liniment was never ordered for him, and that he must have kept it on his shelf for some days; and lastly, that since the paraplegia had become complete, he had been unusually despondent and morose. With regard to the phenomena produced, it is most likely that, immediately after swallowing the poison, he experienced those violent tingling and stinging sensations in the mouth and fauces which aconite produces, and hence the pain complained of in his face. Being already paraplegic, nothing is known as to how far the poison affected the muscles of the lower extremities; but it is evident that, whilst the intelligence remained perfect, the arms became weak, then powerless. Subsequently, he could not support himself in the sitting posture; and, on his falling back, the muscles of the face, and of respiration, were paralysed, and he died asphyxiated. Previous to this, however, a powerful sedative effect had been produced on the heart, for when first noticed he was pulseless, and shortly after, no impulse could be felt in the cardiac region.

"According to Dr. Christison, the least variable symptoms of poisoning by aconite in the human subject are, 'first, numbness, prickling and impaired sensibility of the skin, impaired or annihilated vision, deafness, and vertigo; also, frothing of the mouth, constriction at the throat, false sensations of weight or enlargement in various parts of the body; great muscular feebleness and tremor, loss of voice, and laborious breathing; distressing sense of sinking, and impending death; a small, feeble, irregular, and gradually vanishing pulse; cold clammy sweat, and pale bloodless features; together with perfect possession of the mental faculties, and no tendency to stupor or drowsiness; finally, sudden death at last, as from hæmorrhage, and generally in a period varying from an hour and a half to eight hours.'¹ Although in this case many of the symptoms just mentioned were not noticed, it must be evident that the leading ones, indicative of the physiological action of the drug, were observed. When the large dose of the poison is considered, and the great rapidity of its effects, it may be easily understood how the minor symptoms, and especially those having reference to the sensations of the patient, were not ascertained, if indeed they really existed.

"Dr. Fleming considers that aconite may cause death, 'first, by producing a powerfully sedative impression on the nervous system; second, by paralysing the muscles of respiration; and, third, by producing syncope.' He observes, 'that the second mode of death has never been recognised in man; the quantity of the poison taken in no case having been sufficient to exert such an effect on the nervous and muscular systems, as is necessary to induce it.'² The case of Smith, indeed, is the only one of this description, so far as I am aware, that has ever occurred, in which the dose of poison was so large, and the death so rapid."

TREATMENT OF INSANITY IN BENGAL. BY. DR. T. A. WISE.

"The treatment of insanity in Bengal was either medical or hygienic.

"The medical treatment consisted in the removal of any prominent class of symptoms, or of certain diseases to which the insane were subject, from the influence of the mind over the organs of the head. Local bleeding, with leeches, was employed in a few cases. It was in the more turbulent of insane patients, in whom the disease had existed for a short time, that cures are most generally obtained; a gradual restoration of the faculties occurring as the state of excitement passed off. When a patient was brought to the

¹ On Poisons. Fourth Edition; p. 871.

² An Inquiry into the Physiological and Medicinal Properties of the Aconitum Napellus. Edinburgh: 1845. P. 42.

asylum in a very excited state, in some rare cases it was thought necessary to abstract a few ounces of blood ; but in general this state was produced by a weak nervous condition, which an aperient and camphor mixture, with a generous diet, removed. In some cases, where there was a very marked determination to the head, the *douche*, or a stream of cold water allowed to fall from a height upon the head and cold lotions, with warmth to the feet, were sufficient. When the pulse was less strong, a solution of tartar-emetic in doses of two or three grains every three hours, with one-fourth of a grain of opium was used, and produced nausea and vomiting, a free perspiration, a soft pulse, and a cool skin. This treatment generally procured the patient sleep, which was insured by Dover's powder, or repeated doses of henbane or morphia. When these objects had been accomplished, the patient was allowed to remain quiet, until he got accustomed to the asylum, when he was encouraged to employ himself with the other patients.

"This improved state required careful watching. An occasional mercurial alterative and a mild aperient were required ; but as insanity is usually a disease of debility, and the patient is found weak, the skin cold, the body emaciated, and the features sunken, a more tonic treatment was indicated. In such cases much care was required to keep them warm, to remove irritation by narcotics and tonics, and to strengthen the body by generous diet. In this state the patient was quiet and harmless, and the prominent feature of his complaint was deficiency or inactivity of mind, in which freedom of action required to be combined with constant occupation.

"The *hygienic* precepts attended to in the treatment of the insane in India are chiefly directed to the improvement of the general health, by employment, so as to exercise the body and mind ; and, by carefully avoiding causes of irritation, which fix the patients' attention on objects not connected with their disease.

"As the patients were usually brought to the asylum in a state of squalid cachexia, much care and attention were required in giving them nourishing and easily-digested food, in keeping them clean, in clothing them warmly, and in requiring them to take as much bodily exercise in the open and fresh air as their state admitted. This was of great importance in hastening the recovery, and induced me to inspect daily the food prepared for the insane, which consisted of rice, fish, meat, peas, and vegetables. These were varied three times during the week, with dhal and rice, rice and vegetables, rice and fish, or rice and flesh. These articles were provided by the purveyor who furnished the supplies for the jail. The insane had two meals, and were allowed daily a small quantity of tobacco, and betel, in consequence of their being all habituated to their use. They had two suits of *clothing* during the year (each consisting of a chuddah, dhooty, and gamcha), and for their bedding each patient was allowed two blankets, a mat, a straw pallet, and a pillow.

"In insanity, the chain of ideas or images which arise follow one another according to certain associations, over which the individual seems to have little control. We saw their characters in various degrees developed ; but some impression was always found to have taken possession of the mind, and influenced the conduct, which would not affect a sound understanding, and was not corrected by facts and considerations that would, in ordinary circumstances, have removed the erroneous impressions. Reasoning, therefore, with patients on their peculiar delusions was of no use. I have often stopped opposite a raving patient, and abruptly interrogated him, on any familiar subject, so as to break the association ; and as soon as the question was understood, he would stop, and, in a natural manner, answer the questions rationally. His morbid and absorbing train of thought was changed, and some well-known image substituted. This experiment was the more important, as it afforded us the means of judging of the nature of the disease, and the means of remedying it.

"The advantage of such a system will be understood, by considering the human system as consisting of corporeal organs, mental faculties, social affections, and moral or religious principles ; and the proper use and application of these capacities in promoting the welfare and enjoyment of man. When these powers are checked or impeded in their proper exercise, they produce insanity, which in general is a limited and partial derangement of the powers of the mind, which are weakened ; so that the individual is carried away by some absorbing train of thought, which, in the treatment, should be repressed, by calling into activity the other mental powers. But, before an opinion can be formed of the state of a person's mind, it is of importance to compare it with the mind of the lunatic himself in its natural state ; which, among the inhabitants of India, is, in general, more of a mechanical and sensual, than of an intellectual, nature. This consequently should vary the treatment. The insane patient was always employed, and was only coerced when absolutely required, for the safety of the individual, or of those around him. His faculties required to be strengthened, and the general powers exercised in a suitable and regular manner, to fortify the mental faculties, and produce a proper development of self-respect. This was best accomplished, by removing objects that recalled favourite, or morbid trains of thought ; by bodily exercise, or by the exercise of the patient's usual manual occupation. It was particularly necessary to observe that the feelings were interested in new and engaging objects, upon which the thoughts could be fixed, while the time was beneficially spent in laborious employment. This was particularly the case, from the patient's occupation being in India almost entirely corporeal ; it was consequently found the best means of alleviating the symptoms of these mental diseases, and ultimately of curing insanity. The imaginary love of self, and of ease, often baffled our efforts. But it was only when the mind was so clouded, or when we had to deal with those who were averse to any sort of restraint, or even to allow their clothes to be kept on them, that no impression could be made. Among such even, I have found example and authority of much use : and a habit was acquired, which soon proved that rest was a worse punishment than labour.

"At the same time the irritating effects of restraint were avoided, as it induced the individual to use every means to gain his freedom. He viewed himself in the light of a martyr, and resisted his supposed enemies, and these efforts aggravated his disease. When patients were outrageous, and dangerous to themselves and others, restraint was necessary ; and they were immediately put into a dark cell ; but these paroxysms were generally spent in walking about, and raving. When they were impressed with the power at command, they were very tractable ; and, although generally armed with iron instruments when at work, no accident had occurred in the asylum of any consequence. In two cases, persons were struck on the head for some fancied or real offence. In another case, a patient tried to hang another. In many cases they tore their clothes, or would not without some attention wear any. In other cases, they besmeared the walls of their cells with any liquid within their reach, or pulled bricks out of the walls. On such occasions, I sometimes confined them for a few hours, and found exacting a promise to control himself on being enlarged had often the desired effect, when confidence was placed in the patient's word ; so that, while a degree of fear was not excluded from the asylum, yet the love of esteem was considered a more powerful principle ; and for this purpose those subjects were introduced in which the patients were found to take the greatest interest, and which allowed them to display their knowledge to the greatest advantage.

"This humane system of treatment required the constant vigilance of the superintendents. In India this cannot always be relied on ; and we can never calculate that the patients are not neglected, or degraded by the attendants. There is a great difficulty in inducing patients, even although convalescent, to submit to any sort of labour. A rajah will pretend to be

only able to act in ordering diplomatic matters, a landed proprietor in arranging accounts, a holy fukeer in contemplation, etc.; but we have seen that the rajah may become an excellent basketmaker, a landed proprietor may be employed with advantage in carrying water, and the fukeer in cleaning the wards, in the morning. When the first sense of repugnance of the person at such an employment, and their imaginary high rank, is got over, the new occupation changes their morbid trains of thoughts, and thus acts very favourably on their diseased minds. A case occurs to me:—A middle-aged man was brought to the asylum in a state of amentia, and much weakened in bodily health. He declared he was the father of mankind; and, as the first man, he never wore clothes. At times he seemed silent, and would not work. After attention to his general health, he was taken to the workshop, and in a few days he began to work, of his own accord, and to wear clothes. He soon became quite altered, became very industrious, inoffensive, answered questions rationally, and improved in health. There was every prospect of his speedy recovery, when he was attacked with diarrhœa, and died. Thus, by perseverance, by example, and a little indulgence, especially in diet, and dress in females, their obstinacy will in general be removed; and an influence over the minds of such patients will be of great importance to their recovery.

“The chief endeavour was that the minds of the insane should be occupied with agreeable and regular trains of thought; in listening to cheerful music, poetry, narrative, the elementary branches of mathematics, etc., according to what custom had rendered most agreeable to the individual. In the insane asylum of Dacca there was such a large proportion of the patients illiterate, that other means were employed for occupying their attention during the day; such as rural occupations and sports, and change of scene. These insane patients were employed as much as possible in regular and easy work, and healthful occupation, as most suited to what they were accustomed to previously, as the nature of their circumstances allowed. It was thus that the organisation was adapted to the active exercise of those functions necessary to health; and, as so large a number of the insane had been cultivators of the soil, there were always a large proportion of the men ready to make themselves useful in digging, weeding, and watering the garden. They were ready at dawn, or as soon as the doors were opened, to proceed to work with the gardeners. Others brought water from the tank to clean the different wards and drains, and to water the gardens. Other gangs were constantly employed in bringing bricks from the city, in small hand-carts, to be broken at the asylum, and conveying them to mend roads; in bringing vegetables from the bazaar, etc. For such labours they got small sums of money, which were carefully collected to purchase mangoes, oranges, or such luxuries, which were given to them on Sundays.

“The former habits of field labour of the insane patients rendered it difficult to teach them such arts as could be profitably followed without the walls of the institution.

“Sometimes restraint was required when the patients refused to take food, or medicine, or anything that appeared absolutely necessary for their health. At other times they obstinately refused to take food, owing to the severity of the disease, without any reference to its ultimate effects. In many such cases they fancied great evils would follow from eating, and their caprice was often overcome by stratagem, or by exciting uneasy sensations, by the motion of a swing, etc. In other cases they appeared to be governed by the rules of contraries; in others from bashfulness, requiring that they should eat by themselves, or at a different hour from the others; and it was only in the very rare cases, in which the health would have suffered much from abstinence, that the stomach-pump was required to be employed.

“A swing was found a useful amusement for the most noisy and restless, by which they were soothed; and it was used before the patients were shut up for the night, as it made them sleep.

"The introduction of manufactures into the asylum had been long tried, but was only partially successful, on account of the fickle character of the insane, and their indolent habits, which prevented their employing themselves regularly at work. This was likewise, in part, owing to the laziness, and want of method in the servants. However, when I left the supervision of the asylum, there were several employed as tailors, as basket-makers, in spinning twine, in making ropes, etc.

"The difficulty of finding occupation for the women was greater than for the men, as it had never been exacted from them compulsorily; and their love and habit of inactivity, prevented many from exerting themselves. I enlarged the shed, and the number of dinkies, or hammers at the extremity of a lever raised by the weight of the body, to break bricks for the roads; and all the women worked an hour before breakfast, and about four hours after. Others were employed in the morning, in washing the wards, cleaning cotton, etc. Spinning, knitting, sewing, and other domestic occupations, have only been partially introduced.

"*Amusements.* After their daily work was finished, all the patients were allowed to sit out on the grass or in the verandahs, and to amuse themselves. Their favourite amusements consisted of (panchese) a kind of draughts, and cards. They did not enter with animation into these games, because they did not play for money; but at their homes, where the natives play for small sums, they become so excited as often to play for days together. Among these insane patients the great desire was to cheat without detection; and it was amusing to see with what delight they performed their cunning, and often successful frauds upon each other.

"Another great source of amusement was music, and it was always popular among them. The favourite hand-drum (tom-tom) was always near; and when I went near, one or two immediately commenced singing one of their songs, accompanied with the drum. An old man, priding himself on being able to play on the drum, would seize it, and another sang, while the other patients were delighted, as they distinguished their favourite tunes, and joined in the chorus. On one occasion, a young man, reduced by neglect, to a walking skeleton, would throw about his arms, and his scarcely animated muscles, aping the lascivious actions of health and energy. A painful sight!

"An amusement was found for some of these patients by attending on animals, such as deer, sheep, and cows; and it was interesting to observe how immediately patients interested themselves in these occupations, supplying the animals with food, and other necessaries, and thus awakening and exercising the social and benevolent feelings.

"The insane patients were generally soon reconciled to their condition. A very few only of the violent patients were sometimes clamorous for their release. This was likewise the case with some of the convalescents.

"The improvement required in the asylums in India is chiefly in carrying out a more perfect classification, and in encouraging the more gradual employment of the faculties on the return of reason."

INDIAN HEMP AS AN OXYTOCIC. BY DR. GRIGOR.

In the LONDON JOURNAL OF MEDICINE, (vol. for 1851, pp. 1048), we gave an account of some trials made in the Maternity Hospital of Edinburgh, by Dr. A. Christison, with Indian hemp, in labour. To these remarks, the following observations, by Dr. Grigor, of Nairn, form an interesting sequel. Dr. Grigor says:—

"Since reading Dr. A. Christison's seven cases, conducted at the Maternity Hospital of Edinburgh, I have used the tinct. cannabis Indic. (24 grs. ext. to ʒj.) in sixteen cases. In nine of these, though given to the extent of ʒijss. in separate doses of 25 and 35 drops at a time,—in some in quick succession,

in others at longer intervals,—I could not perceive any increased uterine action, nor the slightest physiological change in any one way during labour or afterwards, with the exception of one instance of sleep (much required at the time) in a lady, far from strong, confined of her third child, and much exhausted by inefficient throes, in whom the third 3ss. dose completely arrested the pains and induced sleep, which continued for an hour, when she awakened refreshed. Labour then set in in earnest, chloroform was given, and the child was speedily born. These nine cases made good recoveries.

“In the seven cases in which the tincture of hemp succeeded so well with me, five were cases of first confinement, of satisfactory though very slow labour, and phlegmatic temperament. I have noticed the contractions acquire great increase of strength and frequency immediately on swallowing the drug, and have seen four or five minutes elapse ere the effect ensued; and if none was induced within the latter space of time, I have not observed its effects at all afterwards, notwithstanding repeated doses. In these few cases, I had opportunities of giving it from the time when the os uteri would admit the point of my finger till the expulsion of the child. Judging from experience, I believe that, in appropriate cases for the use of this stimulant, and when effectual, it is capable of bringing the labour to a happy conclusion considerably within a half of the time that would otherwise have been required, thus saving protracted suffering to the patient, and the time of the practitioner.

“I have not observed it to possess any anæsthetic effects. I have used it in two cases along with the inhalation of chloroform, and I did not observe that that agent interfered in any way with its action.

“When the effects of the hemp were subsiding, I have been able to recall and keep up ‘the good pains’ by the addition of ten drops given from time to time. I consider the expulsive action of the cannabis to be stronger than that of the ergot, but less certain in its effect; and it has the advantage over the ergot, of usefulness in the early stage of parturition. I believe that the previous ineffectual administration of the hemp does not interfere with the after-exhibition and full working of the ergot.

“Such are my brief observations on the new and interesting use to which Bang, or the Hachisch of India, has been put. In the few cases in which I thought its administration safe, and not counter-indicated by malformation, etc., you have given the result of those in which this effect was, and was not, displayed. I cannot conclude these remarks without entering my dissent against the use of uterine medicinal stimuli in general, on account of the frequent difficulty of accurate conception of relative dimension of parts, etc. Yet all obstetricians must acknowledge that, in many cases, such stimuli are indispensable; and to be possessed of one capable of so early application, is decidedly a matter of much importance. I would also notice that, in labour, whether the cannabis shows its peculiar effect on the uterine contractions or not, there seems, as in tetanus, etc., to be a very great tolerance of the drug—nor have unpleasant consequences, so far as I have seen, appeared afterwards; and, whilst it is acknowledged as a powerful controller of inordinate muscular spasm, it is equally, in many cases, a powerful stimulant of the uterine muscular fibre in labour, if not in the unimpregnated state.”

MORBID DEFICIENCY AND MORBID EXCESS IN THE INVOLUTION OF
THE UTERUS AFTER DELIVERY. BY PROFESSOR SIMPSON:

REDUCTION OF THE PUERPERAL UTERUS.

BY PROFESSOR RETZIUS.

This paper contains several instructive cases. DR. SIMPSON mentions, that in the Swedish *Hygieia* of last year, Professor M. RETZIUS, of Stockholm, “published some interesting observations on the process by which nature effects the reduction of the puerperal uterus. He found, in a series

of anatomical and histological observations on the subject, that the process of absorption of the walls of the puerperal uterus was preceded, as absorption of other deposits is, by fatty transformation of its component fibres ; and that the blood, during puerperal convalescence, shows, under the microscope, a corresponding superabundance of globules or granules of fat."

THERAPEUTIC ACTION OF NICKEL. BY PROFESSOR SIMPSON.

"SULPHATE OF NICKEL has appeared to me to act as a gentle metallic tonic. I have generally used it in doses of half a grain, or a grain, repeated thrice daily ; and have given it in the form either of simple solution, or of pill. In large doses, it is liable, like sulphate of zinc or copper, to produce sickness or nausea, particularly if taken upon an empty stomach. I have generally requested it to be taken half an hour or an hour after meals. It has appeared to me, as the result of pretty numerous experiments and observations, that the therapeutic action of the salts of nickel and manganese correspond in a considerable degree with the therapeutic actions of the salts of iron upon the economy ; and that these three metals might, under many conditions, be almost used as therapeutic substitutes for each other. But they also specifically differ from each other in some respects. For example, in one most interesting case, the sulphate of nickel arrested a severe form of periodic headache, which had previously defied iron in many different forms, and all other kinds of treatment that had been employed."

EDINBURGH MEDICAL AND SURGICAL JOURNAL.

FOR JULY 1852.

The articles designated as "ORIGINAL" in this number are all reprints, or translations from other works.

The REVIEWS are occasionally interesting ; and the notices of Tunstall on the *Bath Waters*, and Dundas' *Sketches of Brazil*, are worthy of being read.

DUBLIN JOURNAL OF MEDICAL SCIENCE.

NO. XXVII, FOR AUGUST 1852.

- 1.*APPLICATION OF GUTTA PERCHA IN THE TREATMENT OF DISEASES OF THE SKIN. By ROBERT J. GRAVES, M.D.
2. ON THE INJURIOUS EFFECTS ARISING FROM THE MANUFACTURE OF LUCIFER MATCHES, as observed in the neighbourhood of Manchester. By JAMES B. HARRISON, M.R.C.S.E. With an Appendix by the Editor.
3. EPIDEMIC RUBELOLA AT ACCRA, WEST COAST OF AFRICA. By W. F. DANIELL, M.D.
4. TREATMENT OF ALBUMINURIA BY IRON. By CATHCART LEES, M.B.
5. TOPICAL TREATMENT OF ACUTE INFLAMMATION OF THE LARYNX AND TRACHEA. By EBEN WATSON, M.D.
6. OBSERVATIONS ON HERMAPHRODITISM ; illustrated by a Remarkable Case. By AWLY P. BANON, M.D.
7. CLINICAL REPORTS. By J. T. BANKS, M.D.
[The subjects treated of are—1. Farcy followed by Acute Glanders : and, 2. Chorea treated by Chloroform.]
- 8.*TREATMENT OF TYPHUS FEVER BY SULPHATE OF QUINA. By JOHN F. M'EVERS, M.D., Physician to the Cork Fever Hospital.
9. REVIEWS.
10. MEDICAL MISCELLANY.

APPLICATION OF GUTTA PERCHA IN THE TREATMENT OF SKIN DISEASES. BY DR. GRAVES.

Gutta Percha dissolved in chloroform forms a convenient impermeable varnish, which is very useful, as an adjuvant, in the treatment of some eruptive diseases. As our readers are aware, the same principle has been long ago adopted in the similar use of collodion : and various practitioners, both at home and abroad, have used the same preparation which Dr. Graves recommends. He says :—

“When the saturated solution of gutta percha in chloroform is spread by means of a camel’s-hair pencil over a portion of the skin, the solvent fluid rapidly evaporates, leaving a delicate and extremely thin pellicle of gutta percha firmly adhering to the part. The peculiar toughness of gutta percha prevents this pellicle from being brittle, and therefore it is much less liable than collodion to crack and fall off in small scales. On the forehead or face, where it is not affected by friction of the clothes, it remains firmly attached for five or six days, or even longer, but on other portions of the surface it is often rubbed off much sooner ; over dry eruptions of the skin it lasts longer than over those which are moist, and over smooth and firm spots, of course, longer than over those covered with rough morbid scales, or loosely adhering crusts. Before the application of this solution, therefore, the practitioner will do well to render the portions of the cutaneous disease to which he intends to apply it as free as possible from crusts or scales, by means of poultices, alkaline lotions, etc. When this precaution is taken, he will find that the artificial cuticle which he has applied with his brush will in certain cases act most sensibly on the subjacent disease, diminishing inflammation and its consequences, and powerfully contributing to the restoration of the healthy structure of the skin.

“Whether it acts by the equable pressure which the film of gutta percha, suddenly coagulated from the fluid state, must exert on the surface to which it becomes so firmly adherent, or whether its efficacy be rather owing to other causes, it is beside my object in writing this notice to discuss. I may, however, remark, that the curative properties of such an artificial covering are not confined to the skin, for I am informed by Mr. Moore, that in the *Gazette Médicale de Paris* (April 10, 1852) is an account of the successful application, by M. Dechange, of collodion in orchitis, and the *modus operandi* is said by him to consist in its compressing the tissues, and protecting the parts from the action of the air, which he thinks is a powerful element of phlegmasia. Without giving an unqualified assent to this explanation, I can have no hesitation in announcing my firm conviction, that in diseases of the skin this solution furnishes us with a new and active remedy, exerting effects quite different from those produced by any topical application hitherto in use.

“The transparency of this artificial membrane enables us to watch the progress of the subjacent diseased skin, and its colourless nature prevents it from disfiguring the face when the eruption occupies that part. Its perfect cleanliness, too, is no small advantage, and affords a very agreeable contrast when compared with the usual ointments, etc.

“My observations confirm what reasoning on this subject would lead us to expect, that this application is more suited for dry, scaly, tubercular, and chronic diseases of the skin, than for acute affections attended with much oozing of fluid and comparatively active inflammation.

“Still, its good effects are by no means limited to chronic diseases of the skin or to those of a scaly, dry nature, for, as will hereafter appear, I have seen it decidedly useful in the spreading form of impetigo. My experience of this remedy makes me very anxious to witness its application in the first

stages of erysipelas, as analogy leads me to hope for good results in such cases.

"Of course the patient must aid the efforts of the physician, and must as far as possible abstain from everything which tends to rub off or injure the artificial cuticle, for its virtue ceases when its continuity is broken and the external air finds admission to any part of the diseased surface."

TREATMENT OF TYPHUS FEVER BY SULPHATE OF QUINA.

BY DR. M'EVERS.

DR. M'EVERS reports his experience as favourable to the views of Dr. Dundas as published in this Journal and in the *Sketches of Brazil*. He speaks of the method of giving very large doses, recommended by Dr. Dundas, as "novel and generally successful." We subjoin the author's concluding paragraphs:—

"Since the first introduction into Europe of the Jesuits' bark in 1649, the most celebrated writers extolled its efficacy in the treatment of various diseases, but especially in fevers; owing, however, to some cause or other, it fell into disuse; and it is probable that this was occasioned by the many failures which attended its administration; failures which I now feel assured were owing principally to two causes:—first, the bark not having been given in sufficiently large doses; and, secondly, the bark not having been always of the genuine kind. Its use was revived by the celebrated Sydenham, and after the time of that eminent man, its excellent qualities were fully established by Hoffman, De Haen, Pringle, Cleghorn, and other practitioners of eminence. And it is worthy of remark, that those who were most enthusiastic in praise of this remedy gave it in very large doses. Dr. Clarke, a celebrated physician, who wrote on fever in the year 1770, was in the habit of prescribing bark in two-drachm doses every two hours, and at the same time of exhibiting it by the rectum in the form of enema; he relates that on one occasion, in mixing a dose of bark for a patient, he discovered that the apothecary had by mistake put half an ounce of bark into each paper instead of two drachms, which he had ordered; the patient had been taking this large dose for a considerable time, and got cured of a bad typhus in consequence. Now, when it is estimated that two pounds of good bark will yield about two hundred grains of sulphate of quina, it must be admitted that Dr. Clarke's treatment of typhus was not far short of the heroic method of the present day introduced by Dr. Dundas. It is unnecessary to advert to the fact that Dr. Clarke's patients were taking a different preparation, possessing, however, the same active base.

"One great objection to its general use in this country, which may be advanced, is the high price of the salt; but should the remedy be found as efficacious in the practice of others as by Dr. Dundas and myself, I feel assured that its use, when applicable, would eventually constitute the true economy of our fever hospitals.

"I have placed these cases and observations together in a very hurried and, therefore, imperfect manner, but the subject I considered to be of so much importance to the profession, as to induce me to take advantage of the earliest opportunity of bringing forward the results of my experience of this new treatment for typhus; and I do so in the hope, that this notice of the subject, however imperfect, may induce others to test the value of quina in this disease, in the large doses recommended."

MEDICAL TIMES AND GAZETTE.

FOR JUNE, JULY, AND AUGUST, 1852.

1. SCROFULOUS AND RHEUMATIC INFLAMMATION OF JOINTS. By EDWARD STANLEY, Esq., F.R.S. [Clinical Lecture.] June 12.
2. FATTY DEGENERATION. By W. F. BARLOW, Esq. June 12, Aug. 14, [Continuation of former Paper.]
3. THE RECENT DEATH FROM CHLOROFORM. By J. C. CLENDON, Esq. June 12.
4. LECTURES ON CLINICAL MEDICINE. By JAMES TURNBULL, M.D. June 19, July 17, and August 14.
[These lectures contain a number of interesting cases and observations. The topics are : 1. Aneurism of the Abdominal Aorta ; 2. Tumour in the Epigastrium with Pulsation ; 3. Encephaloid Cancer of the Kidney, Lungs, etc. ; 4. Dropsy and Albuminuria.]
5. HYDROCELE. By BRANSBY B. COOPER, Esq., F.R.S. [Clinical Lecture.] June 19, and August 28.
6. ERYSIPELATOUS AFFECTION OF THE THROAT, destroying, or greatly impairing the Power of Deglutition. By R. B. TODD, M.D., F.R.S. [Clinical Lecture.] June 5.
7. ACUTE RETINITIS. By ROBERT TAYLOR, M.D. June 5.
8. CONTRIBUTIONS TO DENTAL SURGERY. By C. S. BATES, Esq. June 5, and July 31.
- 9.*TREATMENT OF CROUP BY WARM VAPOUR AND EMETICS. By WM. BUDD, M.D. June 19.
10. ILLUSTRATIONS OF UNHEALTHY INFLAMMATION. By M. B. GALLWAY, Esq. June 19.
11. USE AND ABUSE OF NITRATE OF SILVER DROPS TO THE EYE. By T. WHARTON JONES, F.R.S. June 19.
12. VACCINATION TESTED BY THE EXPERIENCE OF HALF A CENTURY. By GEORGE GREGORY, M.D. June 26.
13. MECHANISM OF BRONCHOPHONY. By W. H. WALSHE, M.D. June 26.
14. PATHOLOGY OF ONE FORM OF ENCYSTED EMPYEMA. By E. L. ORMEROD, M.D. June 26.
15. PROPAGATION OF YELLOW FEVER BY CONTAGION. By A. BYSON, M.D. June 26.
16. DISEASES OF THE RECTUM. By RICHARD QUAIN, F.R.S. [Clinical Lectures.] July 3 and 24.
[The affections treated of are :—1. Excoriations, etc. ; 2. Morbid Contraction of the Sphincter Ani ; 3. Neuralgia of the Rectum.]
17. SCARLATINA IN RELATION TO ERYSIPELAS. By ALEX. WOOD, M.D. July 3.
18. PRECIPITATION OF ALBUMEN BY ACIDS AND NEUTRAL SALTS. By E. A. PARKES, M.D. July 3.
- 19.*CASE OF FARIGINOMATOUS INFLAMMATION OF THE LEFT FOOT SUCCESSFULLY TREATED WITH THE SESQUICARBONATE OF AMMONIA IN FREQUENT AND CONCENTRATED DOSES. By F. W. MACKENZIE, M.D. July 3.
20. BLOOD-VESSELS AND TRABECULE OF THE SPLEEN. By W. O. CHALK, Esq. July 3.
21. PNEUMO-THORAX. By W. S. KIRKES, M.D. July 3.
22. DISEASES OF THE TONGUE. [Clinical Lecture.] By LANGSTON PARKER, Esq. July 10.
[To be continued.]
23. HEARTBURN AND INDIGESTION. By HENRY HUNT, M.D. July 10.
24. SUCCESSFUL LIGATURE OF THE COMMON CAROTID ARTERY IN AN INFANT FOR ANEURISM BY ANASTOMOSIS IN THE ORBIT. By HAYNES WALTER, Esq. July 10.

[From errors of the press, the report of the case as to important dates is rendered unsatisfactory.]

25. MEDICAL HISTORY OF THE 47TH REGIMENT. By G. SAUNDERS, Esq. July 10.
26. CURE OF ENLARGED SUPERFICIAL BURSE AND GANGLIA. By HENRY SMITH, Esq. July 10.
27. WOUND AND LIGATURE OF THE FEMORAL ARTERY. By R. MASON, Esq. July 10.
28. CARIES OF THE OS CALCIS. By E. W. LOWE, Esq. July 10.
29. DESCRIPTION OF AN INSTRUMENT FOR TREATING FRACTURE OF THE CLAVICLE. By DR. CRAWFORD. July 10.
30. CONGENITAL CATARACT. [Clinical Lecture.] By WHITE COOPER, Esq. July 17.
31. CHOLERA IN ASYLUMS. By THOMAS G. WRIGHT, M.D. July 17.
32. PUERPERAL CONVULSIONS. By CALEB ROSE, Esq. July 17.
33. CASES OF ABORTION. By WILLIAM PRETTY, Esq. July 17.
34. CHOREA. [Clinical Lecture.] By R. B. TODD, M.D., F.R.S. July 24.
35. DYSMENORRŒA. By EDWARD RIGBY, Esq., M.D. July 24.
36. DIAGNOSIS, TREATMENT, AND PATHOLOGY OF OVARIAN TUMOURS. By F. BIRD, M.D. July 24, Aug. 21.
37. DECENNIIUM PATHOLOGICUM. RECORDS OF DISEASE IN ST. GEORGE'S HOSPITAL FOR TEN YEARS. By T. K. CHAMBERS, M.D. July 24, Aug. 7, 14, and 28.
38. TREATMENT OF ENTROPIUM. By J. M. WINN, M.D. July 24.
- 39.* FORMATION OF CRYSTALS IN HUMAN BLOOD. By E. A. PARKES, M.D. July 31.
40. COMPLICATED HARE-LIP. By R. QUAIN, Esq., F.R.S. July 31.
41. POLYPUS OF THE URINARY BLADDER. By W. P. SAVORY, Esq. July 31.
42. INFANTILE POISONING BY OPIUM SUCCESSFULLY TREATED. By A. CARR, M.D. July 31.
43. A CONTRIBUTION TO HÆMATOLOGY. By E. H. SIEVEKING, M.D. Aug. 7.
44. CANCER. By THOMAS WILLIAMS, M.D. August 7.
45. CASE OF CYSTO-SARCOMA. By W. COOKE, M.D. August 7.
46. CASE OF SUICIDE BY HANGING. By F. C. WEBB, M.D. August 7.
47. REMOVAL OF A CARIOUS OS CALCIS. By A. G. FIELD, Esq. August 7.
- 48.* ON THE PRESENT METHOD OF TREATING DISEASES OF THE SKIN. By J. S. TYLOR, Esq. August 7.
49. OBSTRUCTION OF THE BOWELS FOR THIRTY-TWO DAYS: POST-MORTEM EXAMINATION. By J. S. BEALE, Esq. August 14.
50. PHLEGMASIA DOLENS OF THE UPPER EXTREMITY OCCURRING AFTER PARTURITION. By J. M. WINN, M.D. August 14.
51. CASE OF MULTIPLE SUBCUTANEOUS CANCERS. By W. H. WALSH, M.D. [Clinical Lecture.] August 21 and 28.
52. CASE OF HARE-LIP IN WHICH HAINSBY'S APPARATUS WAS APPLIED. By HENRY SMITH, Esq. August 21.
53. CASE OF TRAUMATIC TETANUS SUCCESSFULLY TREATED BY QUININE. By T. F. SANGER, Esq. August 21.
54. CASE OF ABSCESS OF THE BRAIN. By G. W. BEGGIE, M.D. August 28.

TREATMENT OF CROUP BY WARM VAPOUR AND EMETICS.

BY DR. WILLIAM BUDD.

We have no hesitation in recommending the warm vapour treatment advocated by Dr. WILLIAM BUDD, because we have long been in the habit of chiefly relying upon it in the treatment of croup, and of some forms of pulmonary inflammation in infants. We have found that the infant may remain in its mother's or nurse's arms, if it be placed in a large bag—a wide pillow-slip—of hot moist bran. By this method the treatment can be well observed, easily maintained, and safely regulated. That it may be sufficiently long kept up in very young infants, the pulse must be carefully

watched, as to prevent faintness it may be necessary to administer from time to time a teaspoonful of sweetened milk and water, or of beef-tea; with it may be occasionally, a few drops of brandy, or a little ammonia.

Dr. Budd reports several cases. We quote his remarks upon the *rationale* and details of his practice.

"If the air we breathe have power to set up inflammation on a surface not before diseased, how much more damaging is it likely to be to a surface already inflamed.

"The inflamed trachea in croup is sheathed, it is true, from the direct influence of this element by the intervening false membrane.

"This is seldom, however, the case throughout the disease. For, besides that in its early stage there is always a time when false membrane is not yet formed, the instances are rare in which, even after its formation, the larynx is not partially or completely denuded of its adventitious covering, once at least during the course of the complaint. In almost every case, if narrowly watched, it will be found that distinct flakes of false membrane are, at some time or other, coughed up with great temporary relief to the sufferer. So that it is precisely at the moment when the best hopes are excited by the occurrence of this incident, that the prejudicial action of the raw air in keeping alive the inflammation in the now bare and diseased surface steps in to disappoint them.

"As the air is more injurious the colder it is, it naturally occurred to me, that the first object in the treatment would be to raise the temperature of the air breathed by the patient to a suitable point. The second was, to saturate the air thus warmed with watery vapour. On many grounds, indeed, it seemed to me not improbable, that—whether by modifying the physical constitution of the false membrane itself—or, perchance, by promoting a more serous secretion beneath it, or in both ways at once—the moisture thus generated might specially aid in the separation and expulsion of the morbid product, and possibly also prevent its being formed anew.

"It is for more enlarged experience to say to what degree these important objects are likely to be realised by these simple means.

"The results we have as yet obtained are perhaps too few to build upon securely. Nevertheless, as far as they go, they surpass the best expectations that could have been formed of this method of treatment. If they warrant nothing more, they at least encourage to a further trial of it.

"The mode of proceeding was, as you remember, simple enough. The sick child was placed in a bed, closed on all sides by a double curtain. Into this bed was introduced a large earthenware pan nearly filled with all but boiling water; and into the water was plunged, from time to time, a heated brick, for the purpose of disengaging steam, care being taken to have the brick completely submerged. By this means, the atmosphere within the curtain was constantly kept at a temperature of from 75° to 80° Fahr., and surcharged with vapour. Where it was practicable, the mother was placed in the bed with the child in order to reconcile it to the strangeness of its situation. As convalescence approached, this was on several occasions found to be a useful precaution.

"The only other measure adopted, was to give an emetic from time to time, whenever the struggle for breath seemed more than commonly urgent. Not, however, for the sake of the antiphlogistic effect of the antimony or other agent employed, but to help, by that mechanical succussion which the act of vomiting causes, and which daily experience shows to be so effectual for this end, in the expulsion of the morbid product. This is the great and paramount use of emetics in the treatment of croup, and it is one the more to be valued, *since there is no substitute for it.*"

CASE OF FARCINOMATOUS INFLAMMATION OF THE LEFT FOOT,
SUCCESSFULLY TREATED WITH THE SESQUICARBONATE
OF AMMONIA IN FREQUENT AND CONCENTRATED
DOSES. BY F. W. MACKENZIE, M.D.

In the LONDON JOURNAL OF MEDICINE, for September 1851, the author reported a case of acute glanders in the human subject, which was followed by recovery. This result appeared to be mainly attributable to the administration of the sesquicarbonate of ammonia in frequent and concentrated doses. The following case is published for the purpose of showing the efficacy of the same treatment in analogous diseases.

CASE. Cornelius Knight, a stableman, aged 47, of temperate and regular habits, was admitted into the Paddington Infirmary on the 24th October, 1851, suffering from extensive gangrenous inflammation of the left foot. It was extremely swollen, was of a dark livid colour, and very painful and hot; the sensation of heat, indeed, was so intense, that it seemed to him as if the foot was being broiled; the pain, moreover, was aggravated by the slightest touch. At the outer ankle, extensive sloughing and vesication had taken place, attended with an offensive sanious discharge. The patient had for some days previously suffered from frequent rigors, succeeded by heats and flushings, great prostration, and much disorder of the stomach and digestive organs. These symptoms were also well marked at the time of his admission. He was evidently labouring under a low typhoid form of fever, was at times delirious, complained much of nausea and sickness, and had not slept for many days or nights. His tongue was coated, his pulse feeble, and there were numerous pustules on his face, neck, and shoulders.

The case was considered, in the first instance, to be one of gangrenous erysipelas, attended with much constitutional prostration, and the following treatment was prescribed. He was ordered immediately an emetic of ipecacuanha; after vomiting had taken place, three alterative doses of blue pill, at intervals of four hours between each, the sesquicarbonate of ammonia, in five-grain doses, every two hours, as concentrated as he could swallow it, and to be supplied frequently with cordials and light nutriment. The foot was directed to be kept elevated, and covered with warm bread poultices, saturated with carrot-juice. This treatment was continued for five days, with very satisfactory results. The general condition of the patient had much improved; the prostration had lessened, and he felt altogether better. It had been necessary, however, to give him opiates at bed-time, on account of his restlessness and inability to sleep.

On the fifth day after his admission, two dusky patches of inflammation appeared on the affected extremity, the one on the inside of the knee, the other a little below it; and on each of these patches a small circumscribed tumour arose, about the size of a walnut. These were extremely painful and tender, and in the course of a day or two suppurated. The peculiar character of these tumours led to some further inquiries being made into the history of the case, and the information which was obtained tended to connect the disease with some infection which had been received from a horse. It was elicited, that the patient had nearly all his life been engaged in stables, and accustomed to the care of horses; about three months previously to his admission, he had given a ball to a horse which was reported to have influenza, but which had a profuse, unhealthy discharge from the nostrils, of a thick, yellow, tenacious character, and was observed to labour under greater constitutional disturbance than is usually the case in influenza. In giving the ball, the little finger of the patient's right hand was scratched and abraded by the teeth of the horse, and, on withdrawing it, the discharge from the nostrils fell upon this abrasion. The same night the finger became extremely painful and swollen, and, shortly afterwards, the swelling extended

to the whole of the arm, which became also very painful. On the following day, he applied at St. George's Hospital, where free incisions, etc., were made in the affected parts, and, by dint of these and other appropriate measures, the severity of the local affection was much subdued. The finger, nevertheless, continued, for some time subsequently, in a very irritable and unhealthy condition. Three weeks after the accident, the left foot (the one which was affected on his admission) was attacked, without any apparent cause, with inflammation of a dark purplish colour, which, after subsiding, in the course of two or three days returned again, and continued to do so at intervals; and it was the return of one of these attacks which had been followed by sphacelation, and those other local and constitutional symptoms which were observed on his admission into the Infirmary. On learning these particulars, I was led to suspect, that the disease of the foot and leg was connected with the poison, or morbid secretion, which had been received from the horse; and, on expressing this opinion, a patient in the ward, who was well acquainted with the phenomena of farcy and glanders in the horse, examined carefully the swellings about the knee, and remarked, that they had very much the character of "*farcy buds*".

From this time, small circumscribed tumours or swellings of the same description began to appear upon the dorsum of the affected foot; at first they were hard and tubercular, and about the size of a pea; but, in the course of a day or two, they became as large as a walnut, then suppurated, and discharged their contents into the subcutaneous cellular tissue of the foot, whence they formed a passage to the ulceration around the ankle, and there escaped. Swellings, or rather abscesses, of this description continued to form, in succession, upon the foot; so that, in the course of a month, as many as fourteen had appeared. At first they had the character of small tubercles, which softened, and became abscesses; but, after a time, their contents became more and more serous, and at last consisted of a small quantity of watery fluid only. The patient, who had at first thought little of the nature of his complaint, attended closely to their rise and progress, and stated, that they appeared to be very similar to the farcy buds which occur in horses.

The treatment I have mentioned was continued uninterruptedly for a month. Ammonia was given, in a concentrated form, every two hours; opiates and alteratives were occasionally given at bed-time, and throughout the patient was kept up by a liberal allowance of wine, cordials, and nourishing food. These measures were, indeed, urgently required, as the amount of sphacelation and sloughing which continued to take place on the foot during this period, as also the constitutional prostration, were very great. At the end of this period, however, matters had greatly improved; the febrile symptoms had lessened, as well as the prostration; the appetite had returned, the tongue was clean, and the patient slept well at night; the sloughing of the foot had also ceased, and the ulceration left by it had assumed a healthy character; the disposition to the formation of abscesses, or "*buds*", on the dorsum, however, still continued, and, to meet this, the liq. arsenicalis, in five-minim doses, three times a day, was substituted for the sesquicarbonate of ammonia. In the course of a week from this alteration in the treatment, the disposition to the formation of these abscesses ceased, the ulceration of the foot continued to heal favourably, and the patient's recovery was steady and satisfactory from this date. The foot, however, remained for some time cedematous and tender, after all other morbid appearances had ceased.

Remarks.—Although the history of this case, taken in connexion with the peculiarity of the symptoms, point to its farcinomatous nature, I should not have ventured to have published it as one of farcinoma, if I had not in the first place forwarded the preceding report to Mr. Mavor, the eminent veterinary surgeon, and received from him the following testimony on this point:—

"Relative to the case you have been kind enough to introduce to my notice, I have great pleasure in giving my opinion, which is, that it was unquestionably one of the disease which, occurring in the horse, is termed 'farcy'; and I feel still further strengthened in this conviction, in consequence of the opportunity I have recently had of questioning and receiving a detailed verbal account of all the circumstances connected with the case, from the person who was the unfortunate subject of it.

"With regard to the objections which, you presume, may be raised to the diagnosis, I do not think they are admissible, as each and all the exceptions to the ordinary symptoms to which you refer, are very commonly met with in the horse, to which animal the disease must, properly speaking, be considered to be peculiar, he being the only one of all the classes in whose system it is spontaneously generated, the others receiving it only by transmission from him; and, therefore, it cannot form a matter for surprise, if, when the disease is introduced into the system of an animal in whom it must be considered as foreign, the train of symptoms should deviate in some, or even in a considerable degree, from their usual character and appearance.

"In the case in question, however, I repeat, that no such deviation has occurred, but what is in accordance with the exceptions to the form in which it is met with in the horse. . . . I remain, &c. WILLIAM MAJOR."

The objections which I had suggested as being likely to be raised against the farcinomatous origin or nature of the disease in the present case were principally the following: 1. That too long a period had elapsed between the infection of the system and the commencement of the local symptoms in the foot. 2. That the disposition to the formation of the suppurating tubercles, tumours, or "buds," was too limited, being confined to the affected limb. 3. The absence of any disease of the lymphatics, or of those inflamed cords which are described as occurring intermediately between the farcinomatous tumours. 4. The absence of any affection of the Schneiderian membrane.

We are therefore, I conceive, justified in considering this case as one of farcinoma; and, as such, it furnishes an additional illustration of the remedial powers of the sesquicarbonate of ammonia, when given in frequent and concentrated doses, in farcinomatous diseases, and it is on this account more particularly, that I have been led to publish it. I have so fully entered upon the consideration of the *modus operandi* of the medicine, when thus given, in these cases, and the circumstances which originally led me to employ it, in the paper referred to, that I need not dwell upon them here. I would simply observe, that whether we consider the present as a case of farcinomatous or gangrenous inflammation, it is equally calculated to show the efficacy of the sesquicarbonate of ammonia in either, when given in frequent and concentrated doses.

FORMATION OF CRYSTALS IN HUMAN BLOOD.

BY E. A. PARKES, M.D.

The following remarks are very interesting:—

"The observations of Virchow, Funke, Reichert, and others, on the crystallisation of some organic constituents of the blood and of exuded fluids, are of singular interest in connexion with the microscopic examination of pathological products. In the body, blood, and fluids derived from it, are often found external to blood-vessels; and in these clots and fluids, crystals of various kinds are sometimes seen. Some of these are mineral, others are fatty, substances; while some appear to be—in part, at any rate—of albuminoid origin. It becomes, of course, an object of interest to know whether similar crystals will form in blood out of the body. I happen to have observed several varieties of crystal in blood, an enumeration of which may not be without interest.

"In December last, I added to a bottle containing some half-dried and semi-putrid human blood, obtained by venesection, a little water, for the purpose of clearing out the bottle. After it had stood for two or three days, I proceeded to throw the contents away. When nearly the whole of the blood and water from the bottle had been poured away, I thought of observing the microscopical characters of this half putrid and watery blood. A small half-liquid clot was all that remained. When this was placed under the microscope, it was found to be crowded with beautiful needle-formed crystals.

"These crystals were of various lengths, and were often very long; they appeared prismatic, and were either cut off sharp at the ends or tapered. Many of them were in bundles, broom-like; others crossed and intersected each other in all directions. In some cases they seemed to emerge from all sides of a large red mass, which was also penetrated in all directions by them, and which appeared to have been originally formed by a mass of red corpuscles. The red corpuscles could not be seen, but appeared to be represented by colourless cells, round, and rather larger than ordinary red blood corpuscles, scattered through the liquor.

"The quantity I possessed of these crystals was so small, that I had not the opportunity of trying the effect of many re-agents. They were, however, quite insoluble in any amount of water, were also insoluble in strong acetic acid, but were at once dissolved by liquor potassæ, from which they were precipitated, but in a less perfectly crystallised form, by acetic acid.

"Immediately after this, I happened to read Funke's paper on Splenic Blood, in *Henle's Zeitschrift*, which I had had by me some weeks without having had time to peruse it, and was surprised to find described and figured apparently similar crystals, produced by the action of water on the splenic blood of the horse.

"Since this time I have tried various experiments for the purpose of artificially producing these crystals in human blood. I have, however, never succeeded in making them in anything like the quantity in which they were formed by accident. They have appeared in small numbers, and have been generally mixed with other forms. I have also never been able to form the hæmatoid crystals of Virchow."

ON THE PRESENT METHOD OF TREATING DISEASES OF THE SKIN.

BY J. S. TYLOR, ESQ., M.R.C.S.

DR. TYLOR's aim is to call attention to Mr. Startin's practice at the Hospital for Diseases of the Skin. He has selected some cases of squamous diseases, "giving the general plan of treatment, and avoiding formulæ, which can be learned from the pharmacopœia of the hospital."

CASE I. *Lepra Vulgaris*. Emma Collinson, aged 12, 15, Hertford Street, Haggerstone, admitted Sept. 5, 1851. Patches of lepra are scattered over nearly the whole of the back, loins, and abdomen. The bony portions of the arms and legs are also partially covered with raised scaly patches, and a few spots are sprinkled upon the face and scalp. The patches are mostly large and circular, and the scales grey, silvery, and firmly adherent. She has suffered from the complaint for six years. It first appeared, without manifest cause, on her knees, and then attacked the lower parts of the legs. It partially disappears sometimes, but never entirely leaves her. The itching is troublesome when she becomes heated, or gets warm in bed. She is stout and apparently strong, but is subject to fainting fits, and her bowels are habitually constipated. Both parents are healthy; neither has ever had any disease of the skin.

Treatment. Meat was allowed once a-day; but a milk and farinaceous diet was chiefly enjoined. Thin oatmeal gruel was directed to be used instead of soap. Malt liquors were forbidden. An alkaline bath was ordered once a week. Half-grain doses of the iodide of potassium, combined with three

minims of Fowler's solution, were given three times a-day; and an ointment composed of the nitric oxide of mercury and lard, with a few drops of creasote, was to be applied night and morning to the parts affected. She persevered in the use of these measures for six weeks; and it was very interesting to observe, from time to time, the gradual detachment of the larger and thicker leprous scales, and the healing of the patches from the centre outwards. Discharged cured, October 17, 1851.

CASE II. *Lepra Vulgaris*. George Totz, a German, aged 50, Old Street, Pickford Square, admitted June 18, 1851. Is a skin-dresser by trade, and much exposed to dirt, and contact with certain chemical substances. Has been affected with lepra for fifteen years. Up to the age of thirty-five, he was robust and healthy. At this time, he was attacked by a scaly eruption which first came on his left elbow, and his health began to decline. He is now weakly, though suffering from no specific complaint but that of the skin. The pruritus is at times extreme, and distresses him greatly. Has been a patient at several hospitals and dispensaries. Irregular patches of lepra are scattered over nearly the whole of this patient's body. The shin bones and arms are also occupied by orbicular patches and spots, slightly depressed in the centre, and many of them are covered with white shining imbricated scales. Some of the patches are inflamed and indurated, and some irregular in shape resembling those of psoriasis. The knees and elbows are coated with thick, closely-adherent scales, of a dirty white colour. Diet, etc., the same as in the last case.

Treatment. An alkaline bath. Iodide of potassium, with a few minims of Fowler's solution; and creasote ointment.

This patient was discharged cured, October 8, 1851, with his general health much improved.

CASE III. *Lepra Vulgaris*. Anna Kampkin, aged 9, Perry-street, Chiselhurst, Kent, admitted March 17, 1851. A stout, fresh-looking girl, in good general health. She first observed small squamous spots on her arms and legs two years ago. Her father was affected with a scaly disease for some years before she was born. Large circular patches of lepra are symmetrically placed upon the neck, body, and legs. The largest, from two to three inches in diameter, are situated upon the hips, and below the patellæ. The arms and elbows are free from disease: a few spots are developed on the scalp. The disease produces no constitutional disturbance. The itching only troublesome when warm in bed. The complaint gradually increases, but does not vary with the seasons of the year. Rules given with respect to diet, etc. Alkaline bath as usual.

Treatment. Doses of the one-twelfth of a grain of bichloride of mercury, with a few drops of laudanum, three times a day. An ointment, containing a small quantity of both the nitric oxide and the ammonio-chloride of mercury, to be applied night and morning. On the 7th of April, Fowler's solution was added to the medicine, and creasote ointment was substituted for the mercurial.

On the 30th of April, as she did not make rapid progress, the iodide of potassium, with liq. arsenicalis, were prescribed, which were persisted in till she got well.

June 20. Quite well. Skin everywhere perfectly clear and sound. This patient did not leave the hospital till the 28th of August, during which time she experienced no relapse, and took no medicine.

CASE IV. *Lepra Vulgaris*. Elizabeth Maunder, aged 22, unmarried, Blue Anchor-road, Bermondsey, admitted Dec. 20, 1850; a healthy young woman. Six years ago a few red spots appeared on both elbows at the same time, which shortly became covered with white filmy scales. Parents both healthy; neither has ever suffered from any cutaneous disease. She can assign no cause for the attack. Over some parts of this patient's body the spots presented the appearance of lepra alphas,—being small, raised, and

coated with very white scales. On the limbs the patches are of considerable size, mostly depressed in the centre, and covered with shining metallic-looking scales. The parts chiefly affected are the fore-arms, and the legs from the knees to the ankles. Diet and bath as usual.

Treatment. Half-grain doses of the iodide of iron, with Fowler's solution, and the creasote ointment; but as the arsenic, even in very small doses, disagreed with the stomach, the bichloride of mercury was prescribed on the 3rd of January, with a few drops of the tinctures of opium and cantharides. This patient disliked medicine, and not being an inmate of the hospital, neglected to take it for more than six months. But, as during the summer her complaint became much increased, she a second time applied for relief. The mixture last prescribed was again ordered, with the occasional addition of a few drops of Fowler's solution, as she was able to bear it.

She was discharged cured, Oct. 17, 1851.

CASE V. *Lepra Alphas.* Anne Fitch, unmarried, aged 28, 48, Spencer-street, St. George's-in-the-East, admitted Oct. 3, 1851, a stout, healthy-looking woman. At the age of 15, during menstruation, she bathed in the sea. The catamenia were immediately arrested, and, shortly afterwards, spots of lepra appeared on the breast-bone. She suffers much from dysmenorrhœa, but otherwise enjoys good health. Her head, face, arms, and elbows, are sprinkled with small scaly and elevated spots. The knees and the backs of the hands are also covered with spots of a larger size, coated with very white friable scales. She states, that the loins and abdomen are similarly affected. These spots are visibly raised, and mostly circular. She has undergone much medical treatment. Rules with regard to diet, the use of soap, etc., as before. An alkaline bath as usual.

Treatment. The iodide of potassium, with Fowler's solution and the creasote ointment.

Nov. 7. Well, except that her arms look red, and are somewhat irritated, from her having been occupied the whole of the previous day in washing with soap and soda. Discharged cured.

In three cases of lepra out of the five, the disease seemed neither to be hereditary, nor to have arisen from any specific cause. In one it was probably inherited, and in another occasioned by suppressed menstruation. In one case it had existed for two years, in two cases for six years, in one for thirteen, while, in another, it had lasted for the long period of fifteen years. In the case of Elizabeth Maunder, the cure was not accomplished for ten months; but this is to be accounted for by the patient suffering a long interval to elapse without taking any medicine. Upon resuming it, she soon recovered. Four months was the longest time during which any other patient was under treatment. All the patients took a combination of the iodide of potassium and arsenic. With one this remedy did not agree, and she recovered under a course of the bichloride of mercury. It will be seen, that, where powerful medicines were exhibited, very small doses were invariably given, and were found to be efficacious; and, far as I am from any leaning towards homœopathic humbug, I feel certain that this is a point very important to observe, both as least interfering with the general health, and as most effective in the cure of these as well as of many other chronic diseases. Where Fowler's solution is administered in drachm or half-drachm doses, several instances of which have lately come under my notice, I am sure that it is neither so safe nor so efficient a remedy as when given in doses of from two to five minims; and, while it is evident that arsenic is a most valuable medicine in the treatment of many cutaneous diseases, it is, I believe, a great mistake to suppose, as some practitioners manifestly do, that this drug is a specific for all. With regard to external remedies in squamous disease, the alkaline bath has been proved to be of essential service, though the constant use of soap is certainly irritating and injurious. The old practice of using tar still obtains under the concentrated form of creasote; and

this as a local remedy may be readily employed through the medium of unguents and liniments. But while outward applications will alleviate some of the more distressing symptoms, very little will certainly be done towards obtaining a radical cure without attacking the root of the disease, which, with the exception of a few complaints dependent upon external exciting causes, has its seat in the blood. After all, medicaments of every kind must be employed, with special reference to the peculiar constitution of the patient as well as to the general state of his health; and strict attention to diet, change of air, etc., are as important aids to recovery in these as in all other diseases.

LANCET.

MARCH AND APRIL 1852.

1. IMPORTANT POINTS IN SURGERY. By G. J. GUTHRIE, Esq., F.R.S. March 6.
[Continuation.]
2. CASE OF CONGENITAL STRANGULATED INGUINAL HERNIA. By HENRY BULLOCK, Esq. March 6.
- 3.*CASE OF PLACENTA PRÆVIA. By JOHN T. WALLER, Esq. March 6.
- 4.*CASE OF TENIA TREATED BY MALE FERN OIL. By ROBERT MOLLOY, Esq. March 6.
5. CLINICAL LECTURES ON SURGERY. By JOHN HILTON, Esq., F.R.S. March 13.
[FRACTURED RIBS is the subject discussed.]
6. LARGE SUBCUTANEOUS NÆVUS CURED BY VACCINATION. By JOHN WOOLCOTT, Esq. March 13.
7. CASE OF POISONING BY HARTSHORN. By J. W. TROTTER, Esq. March 13.
8. SPONTANEOUS EVOLUTION AT THE FULL PERIOD. By S. E. BRAND, Esq. March 13.
9. ARTIFICIAL EYES. By A. BOISSONNEAU, Esq. March 13.
10. NECROSIS OF THE TIBIA. [Clinical Lecture.] By T. B. CURLING, Esq., F.R.S. March 20.
11. CASE OF DISEASE OF THE SPINAL CORD. By JOHN TOPHAM, M.D. March 20.
12. CASE OF RUPTURE OF THE HEART. By JAMES M'NICHOLL, M.D. March 20.
13. CASE OF POISONING BY LAUDANUM IN INFANCY SUCCESSFULLY TREATED BY KEEPING UP ARTIFICIAL RESPIRATION BY MEANS OF GALVANISM. By W. B. HERAPATH, M.D. March 27.
14. POLICY AND PATHOLOGY OF INSANITY. By JOSHUA BURGESS, M.D. March 27.
[Continuation.]
15. AMAUROSIS PRECEDED BY HÆMATEMESIS. By M. O'REILLY, Esq. Mar. 27.
16. TUMOUR CONTAINING EARTHY MATTER, SITUATED IN THE CENTRE OF THE PLACENTA. By ROBERT HARPER, Esq. March 27.
17. PHYSIOLOGY OF MICTURITION AND ON STRICTURE ON THE URETHRA. [Lettsomian Lecture.] By HENRY HANCOCK, Esq. April 3.
[Conclusion.]
- 18.*HEALTHY AND MORBID MENSTRUATION. By HENRY BENNET, M.D. April 3, 10. [Continuation.]
An extract from Dr. Bennet's remarks on the TREATMENT OF AMENORRHŒA will be found at p. 860.
19. TWO CASES OF SUBCONJUNCTIVAL DISLOCATION OF THE LENS. By S. T. CHADWICK, M.D. April 10.
20. CASE OF TRAUMATIC TETANUS SUCCESSFULLY TREATED BY OPIUM. By T. RINGER, Esq. April 10.

21. CURIOUS CASE OF MONSTROSITY. By W. H. POPHAM, Esq. April 10.
22. INTRA-UTERINE POLYPUS: REMOVAL BY LIGATURE. By F. W. MARSHALL, M.B. April 10.
23. CASE OF SIMULTANEOUS DISPLACEMENT OF BOTH HUMERI. By W. H. SMITH, Esq. April 10.
- 24.*TREATMENT OF GONORRHEA. By P. NIDDRIE, M.D. April 10.
25. REMOVAL OF TÆNIA BY MALE FERN. By W. M. F. CHATTERLEY, Esq. April 3.
26. SMALL-POX AFTER VACCINIA. By M. HINCHLIFFE, Esq. April 3.
27. ARTIFICIAL DILATATION OF THE OS UTERI. By JAMES GILMOUR, Esq. April 17.
28. ERUPTIVE DISEASES OF THE SCALP. By C. A. POOLE, Esq. April 17.
29. ON LIEBIG'S NEW METHOD OF DETERMINING THE PROPORTION OF UREA PASSED BY THE KIDNEYS. By MARTIN BARRY, M.D., F.R.S. April 17.
30. ON APOPLEXY AND EPILEPSY, AND ON AN HOSPITAL FOR EPILEPTICS. [Croonian Lecture, 1852.] By MARSHALL HALL, M.D., F.R.S. April 10, 24.
31. DISEASES OF THE JOINTS. [Clinical Lectures.] By SAMUEL SOLLY, Esq., F.R.S. April 10.
32. ON REINSCH'S PROCESS FOR THE DETECTION OF ARSENIC. By HARRY RAINY, M.D. April 24.
33. DISLOCATION OF BOTH HUMERI, WITH FRACTURE OF THE FEMUR. By CHARLES S. WEBBER, Esq. April 24.

CASE OF PLACENTA PRÆVIA. BY MR. JOHN T. WALLER.

On the evening of the 18th December, 1851, about five o'clock, Mr. WALLER was sent for to Mrs. G——, aged 49. He found her lying on the bed, with little or no pain, flooding having been going on some time. The os uteri was well dilated, with placental presentation; and when contraction did occur, which was very slight, the hæmorrhage was fearful. He gave the patient directly half an ounce of the tincture of ergot of rye, passed his hand into the os uteri, intending, if possible, to go through the placenta, but found that very difficult. He continued his efforts for about a quarter of an hour; when, making an extra effort, he felt one edge of the placenta becoming detached from the uterus. He then passed his hand up along the wall of the uterus, turned the foetus, and in bringing down the legs through the os uteri, the placenta came also, and the labour finished in about an hour from the time of Mr. Waller's arrival. The child was dead. Mrs. G—— did as well as usual. Her eldest child is about twenty. She then went eight years to her next child, had three in quick succession, and, before the present case, had not been pregnant for seven years.

TÆNIA TREATED BY MALE-FERN OIL. BY R. MOLLOY, ESQ., M.R.C.S.

"A. W., an iron-moulder by trade, living in Lambeth, had long been troubled with tape-worm; for the last three or four months, indeed, the symptoms had become so annoying, that he was frequently compelled to leave off work for a time, to remove the joints from the anus, as well as those which had accumulated in his trousers. On the 5th ult., I directed him to take, on retiring to bed, a powder composed of four grains of calomel and two of ipecacuanha, together with a strong draught of concentrated compound aloes decoction; at six o'clock on the following morning, he had a drachm of fern oil, obtained from Morson's. By the action of the draught and powder, a copious evacuation took place at four A.M., bringing away a large quantity of joints and other *débris* of the worm; and at twelve at noon, just six hours after taking the oil, the whole of the worm was expelled. It

measured more than two yards in length, was very perfect, and had twisted itself into two knots; the first eight inches below the head was remarkably complicated, and cost me some time and patience to unravel; the second, eighteen inches lower down, presented nothing peculiar. The interest of this case is materially increased by the fact that this patient's wife was greatly afflicted with tape-worm, about seven years ago, and one of the children has now anomalous symptoms which are probably referrible to this cause. I have long had a suspicion that tape-worm is more common on the other side of the river than it is here, and certainly much may be due to the impure state of the drinking water, which is greatly complained of."

TREATMENT OF AMENORRHŒA. BY DR. H. BENNET.

"When the advent of the menstrual flux is retarded in well-developed young females, who evidently suffer, both generally and locally, from the delay, a little judicious management will often determine its appearance. The state of the health should first be carefully scrutinised, and any general or functional derangement remedied by proper treatment. If the patient is weak and delicate, the various preparations of iron, with a generous dietary, are often of great use. If, on the contrary, she is plethoric, and subject to headache and flushing of the face, a light diet, gentle exercise, and alterative or saline medicines, are indicated. A young female suffering in this way is better at home, under the eye of a devoted and attentive mother, should she be fortunate enough to possess such a parent, than in a public school, where the rigid discipline usually enforced renders it difficult to pay that attention to her state which it requires. Under the influence of these general means, the menstrual function usually manifests itself, and becomes regularised in the course of a few months. Should they prove inefficient, slight periodical stimulation of the uterine system should be resorted to. The plan I most frequently adopt is, the application of large mustard poultices to the breasts and inner and upper parts of the thighs, alternately, night and morning, during five or six days, every four weeks. The mustard poultices should be allowed to remain on until the skin reddens and begins to feel painful, but not long enough to blister it, as that would prevent their being replaced the following day. The feet may also be put in hot water night and morning, for a few minutes, and if there is any pain in the hypogastric or ovarian regions, large warm linseed poultices, sprinkled over with laudanum, may not only afford relief, but also promote the menstrual excretion. When the symptoms of local congestion are very marked, the application to the vulva of a few leeches every month, or about the fifth day of the local treatment, may be of great assistance. The commencement of this local treatment should be made to coincide with the menstrual nixus, when it manifests itself periodically. When it does not, a certain date should be taken, and adhered to at the interval stated—that is, every twenty-eight days. In such cases, the medicines known as emmenagogues, which exercise a special influence over the uterus, are scarcely, in my opinion, admissible, the object being to *gently* promote the natural function, and not to violently stimulate, and probably irritate, the uterine organs.

"In amenorrhœa connected with deficient uterine and bodily development, the local treatment should be conducted on the same principles, only it generally requires to be carried out more perseveringly, and for a greater length of time. In addition to the means mentioned, I have also derived great benefit from electricity, the electric current being carried through the pelvis from the hypogastric to the sacro-lumbar region, for an hour night and morning, during the week that local means are resorted to. In these cases, it is evident that the non-development of the body is often in a great measure the *result* of the dormant condition of the uterine organs, inasmuch as I have repeatedly succeeded in rousing them to action by the local treat-

ment above detailed, when the most judicious and persevering general treatment had failed. In these cases, I have invariably seen the bodily structures subsequently develop themselves with great rapidity. At the same time, the knowledge of this fact must not for a moment prevent our employing every possible means of invigorating the general health, of vitalising the economy, and of promoting the regular play of the various functions. After removing any morbid functional condition which a careful scrutiny may detect, recourse should be had to the mineral and vegetable tonics, and especially to ferruginous preparations, to which should be added a generous diet, moderate foot or horseback exercise, cold bathing or sponging, early hours for retiring and rising, and residence in the country, if possible.

"When amenorrhœa can be traced to a debilitating disease, such as chlorosis, phthisis, scrofula, etc., the best treatment is the treatment of the disease to which it is referrible. Thus, in chlorosis, the menstrual flux gradually diminishes, and may finally cease altogether under the influence of the progressive deterioration of the blood, without there being any uterine disease or any other uterine symptom than the scantiness and final disappearance of the secretion. As under appropriate general treatment the blood becomes healthy, menstruation returns or again becomes gradually more and more normal, without any local treatment being necessary in the immense majority of cases. The same may be said of scrofulous and other forms of constitutional debility. In pulmonary phthisis, the falling off and final disappearance of menstruation is a symptom of much more serious import, as it is generally connected with the more advanced stages of the disease, and with an amount of tubercular deposit, and of consequent marasmus, through defective nutrition, which renders the chance of a recovery very problematical.

"Amenorrhœa from physical obstacles can only be remedied by surgical means. If the hymen is imperforate, or the lips of the vulva are adherent, and the menses have collected behind, a crucial incision in the centre of the bulging hymen, or vulvar protuberance, is all that is required. Care, however, should be taken, once the menstrual fluid has been evacuated, that the divided surfaces do not unite and cicatrize. This is to be prevented by the use of small sponge or cotton tents for a few days, or by the application of the nitrate of silver to the edges of the incisions—a more painful but equally efficacious process. When the vagina is partially or wholly absent or closed, either congenitally or by adhesion from accidental causes, the case is a much more serious one, and more difficult to remedy. If there is merely adhesion of the walls of the vagina, this adhesion can generally be removed by the dilatation of the vagina, coupled with the gradual and careful division of the adherent surfaces. When the vagina is partially or entirely absent, the symptoms produced by the retention and accumulation of the menses in the uterus may be sufficiently serious to render it imperative to attempt to form an artificial passage, by surgical means, to the distended uterus. In such cases the difficulty and risk of the operation depends on the distance that separates the vaginal cul-de-sac or the imperforate vulva from the uterus, the operator having to make his way between the rectum and the bladder. Considerable assistance in diagnosis is derived from a careful rectal examination. It is of great importance to find a vent for these uterine accumulations of menstrual fluid, as, in addition to the suffering endured, there is positive danger to life. Cases are on record in which the distension of the uterus extended to the Fallopian tubes, and in which death occurred from the peritonitis occasioned by their rupture.

"Occlusion of the os uteri, as a congenital occurrence, is rare; but since I first recommended the use of potassa cum calce as a last resource in obstinate inflammatory disease of the cervical canal, I have seen several cases in which its use had been followed by all but complete occlusion, and by partial retention of the menses, or at least their difficult excretion. This

was evidently owing to the want of due caution at the time of application and during the period of healing afterwards. The tendency of the tissues thus treated to contract being very great, it should be counteracted, if necessary, by the occasional use of wax bougies, until the process of repair has been fully accomplished. The possibility of this accident occurring through the want of caution of the operator, does not in the least invalidate the utility of the remedy, as an exceptional and ultimate one. I have generally, but not always, found this form of occlusion easy to remove by progressive dilatation. Should occlusion of the os uteri exist congenitally, once recognized it is easily remedied by a slight incision in the region of the os, and by subsequent dilatation.

"The catamenial function appears to be more especially liable to arrest from accidental temporary influences, in those females who present the low degree of sexual vitality to which allusion has been made in the first part of this paper, and with whom menstruation appears late and with difficulty. In such constitutions, indeed, it sometimes stops for many months, or even permanently, if no treatment be resorted to, without any apparent cause. Under the influence of decided general and local treatment, the menses will often return for a time, but flag and cease as soon as the treatment is suspended. If there is no positive disease of the uterus or ovaries, the emmenagogues, such as ergot of rye, savine, etc., may be cautiously tried. I have known also the married state, especially if followed by conception, produce a complete change in the functional activity of the uterine system, and menstruation become regular and natural. It is in these cases that the application of the nitrate of silver to the cavity of the uterus, or the scarification of its mucous surfaces, has been proposed. I must confess, however, that I do not think we are warranted in thus interfering with so delicate and sensitive a region of the uterus for such a purpose. In the unmarried female, the application of leeches to the vulva, and in the married to the neck of the uterus, answers every purpose, without being open to the same objection.

"The development of inflammatory disease in the neck or body of the uterus, or in the ovaries, and of cystic and scrofulous tumours in the ovaries, is one of the most frequent causes of amenorrhœa in those in whom the function has once been fairly established, and especially of partial amenorrhœa. When such lesions exist, they generally give rise to other symptoms which an attentive and well-informed observer may easily recognise. This remark, however, applies more to the uterus than to the ovaries, for important morbid changes are not unfrequently found after death in the latter organs, which, during life, have given little other evidence of their existence than the modification or arrest of the catamenial functions.

"In all these cases, the amenorrhœa is merely a symptom of the ovarian or uterine disease. The latter is the condition to be treated, the only indication the amenorrhœa itself supplies being the advisability of having recourse to such local means as are calculated to promote menstruation, whenever nature appears to be making the least effort to establish the menstrual flux.

"In vicarious menstruation, our first effort ought to be directed to the restoration of the integrity of the uterine organs, if it be impaired. We should then, by all the means enumerated, attempt to divert the molimen hæmorrhagicum of menstruation from its abnormal to its normal seat. The most important of these means is the abstraction of blood from the vulva or cervix uteri, which should be resorted to every month, a day or two before the vicarious menstruation is expected, and may be repeated after it has begun, should the strength of the patient admit of such a step. By this treatment the menstrual nîsus may nearly always be diverted into its natural channel; whereas, any attempt to stop the morbid hæmorrhage, by means applied directly to the organ from which it takes place, might be productive of mischief to the system at large."

TREATMENT OF GONORRHOEA. BY P. NIDDRIE, M.D., F.R.C.P. EDIN.

The following remarks are quoted from their soundness, and not from their novelty.

"In a vast majority of cases, the disease may be safely and effectually cured, generally in three days, and almost always within a week. During the first day, a saline purge, such as a Seidlitz powder, with half an ounce of sulphate of magnesia, is to be given; recumbent rest enjoined; weak linseed tea, with a little nitrate or bitartrate of potash, used as common drink; and ordinarily pure cold water used as an injection twice in every half hour. During the second day, the same drink to be used, and quiet observed, but a solution of sulphate of zinc, two grains to the ounce, is to be substituted for the cold water, and used twice every half-hour during the day. On the third day the irritation and discharge will probably have gone, and it will not be necessary to enforce rest so strictly, but the drink and injection must be used as on the preceding days. These remedies are commonly in use, but their efficacy depends on the mode in which they are applied; and if this method is strictly followed, few unsuccessful cases will occur.

"Doubtless there are cases protracted for weeks or even months, but such patients fancy it is too irksome to lie down all day, and it is too much bother to use the injections so often, and they expect to be cured without trouble or restraint. Indeed, there is always difficulty to get patients to use the injection so frequently and perseveringly as is necessary, but on this the success of the treatment mainly depends. It occasionally happens, that on the second day the swelling of the urethral membrane, its irritation, and its discharge, are not sufficiently allayed, and it is necessary to continue the cold water injection till the third day. More frequently, it is necessary to use the sulphate of zinc solution longer than two days, for it must be used at least a day after the discharge has stopped; but it will rarely happen that the whole period of treatment extends to a week."

GLEANINGS IN CHEMISTRY, PHARMACY, AND BOTANY.

ANHYDROUS ACETIC ACID.

M. CHAS. GERHARDT has communicated to the Chemical Society of London the results of some experiments on the preparation of acetic acid uncombined with water, a state in which this acid has not previously been obtained. It is procured by mixing dry and fused acetate of potash with half its weight of chloride of benzole, and distilling the mixture with a gentle heat, when a liquid passes over which is stated to be difficult of solution in cold, but readily soluble in hot water, and this forms hydrated acetic acid. Its boiling point is 278° . When this liquid has been rectified, it yields by analysis a composition identical with that of anhydrous acetic acid, according to its recognised formula, $C^4 H^3 O^3$.

COD-LIVER OIL.

The admitted therapeutic advantages of this drug have excited a laudable desire on the part of many chemists, who make their scientific pursuits subservient to the practice of physic, to ascertain in what portion of its constituents its acknowledged remedial powers reside. The notion that the active agent was the almost infinitesimally small amount of iodine it contains, or the so-called *gaduïn* of Dr. De Jongh, both of which are evidently merely impurities in the oil, has neither deserved nor obtained any general belief in the assertions that the powers of cod-liver oil could be rationally attributed to either iodine or gaduïn. Dr. H. WINCKLER has however propounded a theory respecting cod-liver oil, far more reasonable

than any which have yet appeared, and this he has supported by various experiments, which lend great weight to his hypothesis. This is, that cod-liver oil is a peculiar organic compound, differing in its constitution from all the oils which had hitherto been employed in pharmacy. It appears that when cod-liver oil is saponified with potash, it is converted into oleic and margaric acids, and *oxide of propyl*; that when oxide of lead is substituted for potash, *propylic acid* is formed, and that in no case is oxide of glyceryl (glycerine), the usual product of saponification, produced. Thus, whilst other oils consist, for the most part, of oleic, margaric, or stearic acids combined with *glycerine*, the hydrated oxide of glyceryl; cod-liver oil is composed of the two former acids united to an oxide of the base *propyl*, $C^6 H^7$, replacing *glyceryl*, $C^6 H^2$, the usual basis of oils. These experiments and views of Dr. Winckler merit attention, for they shed much light upon the remedial nature of this oil, leading us to believe that it is a substance *sui generis*, differing not merely in its therapeutic action, but also in its chemical constitution from all other of the fatty oils used in medicine.

CHROMIC ACID AS AN ESCHAROTIC.

This acid is recommended by Dr. HELLER, a German physician, as a useful escharotic in severe cases, when properly and judiciously used. According to his experiments, all organic compounds are soluble in the readily deoxidisable chromic acid; the smaller animals, such as mice and birds, were so completely dissolved by chromic acid in the space of fifteen to twenty minutes, that no traces even of their bones, skin, hair, claws, or teeth could be discovered; so that it would appear that this metallic acid is not only both a safe and gradual escharotic, but furnishes us with another rapid and efficient solvent for organic animal matter. [*Annals of Pharmacy.*]

JUNIPER TAR SOAP.

This remedy is said to have been used in Germany with considerable success, in obstinate cases of eczema, psoriasis, and lepra. From these reports, some trials of its curative powers have been made in Edinburgh, but with variable results; its success in lepra and psoriasis being reported as satisfactory, although a cure was not effected with the rapidity the German cases seemed to promise. In eczema, the success has been more problematical; still, on the whole, the account given of the effects of the juniper tar soap is encouraging of a trial in these troublesome and annoying eruptions, especially when the citrine, or zinc ointments, and other usual remedies have failed. It appears probable that the active ingredient of this soap is a somewhat less pure hydrocarbon than that known under the name of *Huile de Cade*, lately used in Paris for the cure of several cutaneous eruptions. The juniper tar soap is made from a distillation from the tar of the wood of the common juniper, similar to the *Huile de Cade*, by dissolving this spirit in a fixed oil, as olive or almond oil, and forming a soap, with a weak soda-ley, in the usual manner, but an exact formula is not given. This makes a moderately hard, and discoloured soap, which may be conveniently used by applying it at night with a little water to the eruption, and washing it off in the morning; this miscibility with water gives it a great advantage over tar ointment. [*Monthly Journal of Medical Science.*]

BALSAM OF COPAIBA.

GUIBOURT recommends the trituration of four parts of sulphuric acid with thirty parts of balsam of copaiba as a test of the purity of the latter, when, if it be unsophisticated, a solid mass is produced; which, however, is not the case if castor-oil has been used as an adulterant of the balsam. This mixture of balsam and acid makes a good pill mass, in which form it may be exhibited coated with starch, sugar, etc., so as to hide the nauseous smell and taste of this medicine.

SOLVENT FOR DISULPHATE OF QUINA.

Tartaric acid has been recommended as a better solvent for *quinæ disulphas* than diluted sulphuric acid, the agent usually employed to facilitate its solution in water; one-third of the weight of the quina salt is a sufficient proportion of the tartaric acid to effect complete solution, which is by no means unpleasant to the taste, a great improvement on the intense bitterness of the ordinary solution of this salt made with diluted sulphuric acid. We have long thought it far more advisable to exhibit the alkaloids in combination with some vegetable organic acid, such as the tartaric, citric, etc., than as salts for the inorganic acids, in which latter state they are usually employed.

THE ITCH INSECT AND ITS REMEDIES.

The Monthly Journal of Medical Science for last month contains a pleasant notice on M. BOURGUIGNON's researches on the habits and characters of these unpleasant parasites, and methods of destroying them. The male is but one-third the size of the female, and is met with less frequently than she; he is by far the more nimble of the two, and becomes particularly lively when the body is comfortably warm. The female lays four eggs at intervals of about four days between each deposit; shifting her position in the meantime, until sixteen eggs are inserted beneath the skin. In ten days the shells are broken, and the insects make their appearance as six-legged larvæ, increase rapidly in size for a few days, then shed the shell, like the crustacea, acquire eight legs, and are now perfectly developed and capable of reproducing their species.

M. Bourguignon remarks, that an ointment, much used at St. Louis, composed of sulphur two parts, carbonate of potash one part, and lard eight parts, destroyed both insects and eggs in six days; but the eruption remained, or even became temporarily worse. Iodide of sulphur, and iodide of potassium, singly, or together, quickly killed the insects, but these agents destroyed the cuticle and cannot therefore be recommended. He, however, speaks highly of a stavesacre ointment, prepared by digesting three parts of stavesacre seeds in powder, with five parts of lard, for twenty-four hours, in a water bath, and straining the ointment whilst liquid, which in four days will effectually destroy the insects and cure the eruption, without injury to the skin.

CHINESE MATERIA MEDICA.

DR. PERCY exhibited, at one of the meetings of the Pharmaceutical Society, a collection of mineral substances used in China for medicinal purposes, forwarded to him from Canton: amongst it are to be found arsenious acid, and the two sulphurets of arsenic; litharge, and white lead; calamine, corundum, cinnabar, vermilion, nitrate of mercury, nitric-oxide of mercury and calomel; hæmatite, magnetic iron ore, and sulphate of iron; native copper, with the sulphate and acetate of this metal; sulphate of soda and borax; sulphur, carbonate of lime, chalk, stalactite, and fluor-spar, steatite, asbestos, talc, fossil crabs and shells, with bones and teeth fossilised, besides several other substances as yet unrecognised. [*Pharm. Journ. June.*]

THE GALBANUM PLANT.

F. A. BUHSE describes the plant which yields galbanum as growing in Persia; it is a *Fecula*, from the stalks of which a liquid issues abundantly, which he immediately recognized as galbanum. The localities of the plant are very limited, this botanist having noticed it only in the neighbourhood and in the declivities of the Demawend, the inhabitants of which collect the gum-resin, as it issues spontaneously from the lower part of the stalk. When fresh, the galbanum is white, like milk, liquid, and somewhat glutinous, soon becoming yellow, elastic, and finally brittle by exposure to air. [*Pharma. Journ.*]

REPORT OF A COMMITTEE OF THE ACADEMY OF MEDICINE OF NEW YORK ON THE COMPARATIVE VALUE OF MILK.

This Report, drawn up by the Chairman of the Committee, Dr. A. K. GARDNER, is especially directed to ascertain "the effect upon the human economy of milk taken from kine tuberculously or otherwise diseased from improper food, or confinement in milk establishments" in the city of New York. The evils set forth in this Report, existed and even yet exist, to a vast extent, not only in New York, but also in London and in every town of magnitude in this kingdom. The milk examined may be divided into three classes—1. Grass-fed milk; 2. Milk produced from a mixed diet of grass and distillery slop; 3. Milk from cows fed exclusively on distillery slop. These varieties of milk were subjected both to chemical and microscopical examination, which evidenced a great deficiency in the amount of butter contained in the slop-fed milk, the quantity ranging from 10 to 15 parts in 1000, whilst grass-fed milk contained 35 parts of butter in 1000; excess of casein and of the saline constituents as compared with grass-fed milk; and much greater difficulty in coagulation by heat than is the case with grass-fed milk. These facts prove but little; but the other portions of this Report show that the slop-fed cows are invariably attacked by various diseases, such as "sore-foot", often accompanied with fungoid growths, discharge of pus, caries of the bones, and ulceration of the ligaments. Another common disease is caries of the teeth; unnatural elongation of the hoofs is frequent; whilst hernia, abscesses, etc., are also met with, and death in many cases occurs suddenly, especially during epidemics, when the mortality is fearfully rapid amongst these slop-fed beasts. On the *post-mortem* examination of several of these animals, similar pathological appearances always presented themselves; the elongated hoof, lustrous coat, and apparent good condition. On opening them but little flesh was found, and scarcely a pound of fat; the omentum, which in grass-fed cows would weigh from 20 to 25 pounds, in the slop-fed beasts would not weigh a pound. The cavity of the thorax was filled with serum and coagulable lymph, which appeared to be thrown out in layers, forming as it were a sponge; this effusion often amounted to several gallons. Pleuritis, active inflammation of the cellular tissue of the lung, and pneumonia were also met with, but no tuberculous disease, save one doubtful instance. All this evidence, —which, however, is almost superfluous, for it is evidently impossible that a cow swallowing nearly a barrel (32 gallons) of hot slop per diem, and not chewing the cud, would yield healthy milk,—proves that the milk obtained from cows fed in this artificial manner is the product of diseased animals; and the Report then goes on to shew that the effect upon the consumers is extremely detrimental to health, and especially that "children fed on 'still-slop-milk' have a pale, cachectic appearance, are extremely subject to scrofula, and are liable to take every epidemic disease prevalent"; that *cholera infantum*, uncontrollable vomiting and purging, with great emaciation, are the frequent concomitants of the use of this kind of milk by infants; and finally closes with a resolution that "the milk of cows shut up in stables and fed on distillery slops, is not only less nutritious than that of unconfined and well-fed animals, but is positively deleterious, especially to young children, and is the fruitful source of many fatal diseases." Our chief reason for directing attention to the Report, is to impress on our readers that in all places, especially in large towns, where the trades of distilling, brewing, starch-making, etc., are carried on, this evil of diseased milk is as frequent in this country as it appears to be in New York, and to direct their attention to a source of mischief which, with their cooperation, may be effectually checked. The character of the milk consumed in London has within the last few years been greatly improved; large supplies, per railway, from the adjacent counties are each morning and afternoon poured into the metropolis, and, to their praise be it said, many of the large suburban dairymen

are most exact and careful in the management of their milking stock. Still, although "slop" and "grains" are almost unsaleable, the latter now fetching, we believe, not more than a shilling a quarter, if so much, yet all the refuse of distilleries, etc., is consumed, and consumed almost exclusively by cows, whilst many a yard and vault in and around London, can evidence the existence of evils precisely similar to those reported to the Academy of Medicine of New York; and although we place no belief in the silly tales of putrid brains and such-like filthy substances being employed to adulterate milk, yet that this article of diet is still largely diluted with water, is often adulterated with sugar in some state, perhaps with some nasty emulsions, and is frequently the product of diseased animals, cannot be doubted; any more than although the milk sold in London has improved in quality within these few years that there is still great room for improvement, especially in superseding the use of the diseased milk obtained from cows fed on the refuse of distilleries, etc., by a general demand for grass-fed country milk.

HEINTZ ON THE COMPOSITION OF HUMAN FAT.

Human fat has been subjected to a searching examination by DR. HEINTZ, who, after saponifying the fat, and thus acidifying that portion capable of conversion into fatty acids, and freeing them from the oleic acid with which they are mixed, by the usual modes of pressure and boiling alcohol, procured from the solid residue no less than four distinct acids. The first of these, being that most readily precipitated in combination with oxide of lead, exists in very minute quantity in human fat, only three grains being obtained from $2\frac{1}{2}$ lbs. of fat. Dr. Heintz regards this acid as identical with the stearophanic acid of Francis, met with in the berries of *Cocculus Indicus*. Its formula is $C^{36}H^{36}O^4$ and its fusing point 156° . The second, *anthropic acid*, also exists in but small proportions in human fat, which yields about 15 grs. in from $2\frac{1}{2}$ lbs. This acid crystallises from its alcoholic solution in beautiful broad laminae of a pearly lustre, fusing at 133° . The alcoholic solutions of the alkaline salts of this acid gelatinise on cooling; its composition is somewhat doubtful, the barytic salt indicating $C^{34}H^{32}O^4$ as its formula, while the silver salt points to the loss of an equivalent of hydrogen or $C^{34}H^{31}O^4$. The two remaining acids are the *margaric* and *palmitic*, and of these two the latter appears to exist in the largest proportion in human fat, the fluid portion of which is chiefly *oleic*, combined with a small quantity of another liquid fat, which is distinguishable by yielding, on saponification, a barytic salt, less soluble in alcohol than is oleate of barytes, and which contains more of this earth than the oleate does. By long-continued exposure to the atmosphere, the glycerin of human fat gradually decomposes and the fatty acids are consequently set free. [*Ann. der Chemie und Pharmacie.*]

EXAMINATION OF URINE IN DROPSY.

M. NEUBAUER has examined the urine of a scrofulous man, aged 20, who was suffering from tubercles in the lungs and intestines. The urine was of a brownish colour, and of 1.011 sp. gr. It contained—

Water	97.350
Phosphate of Lime.....	} 0.075
Phosphate of Magnesia	
Sulphates.....	
Albumen.....	0.750
Extractive	} 1.825
Urea.....	
Uric Acid.....	
Salts of Ammonia	
Mucus of the Bladder	_____

100.

Berzelius has already observed, with regard to anasarca, that, at the commencement of the complaint, the albumen occurs in the urine in small quantity, and can then only be recognised by corrosive sublimate. During the progress of the disease, when not only are the serous fluids poured into the urinary passages, but the kidneys also secrete an albuminous fluid, the albumen may be detected by less delicate tests, such as nitric acid, alum, etc.; at last it may even be coagulated by boiling. In proportion to the increase of albumen, the quantities of uric acid and urea diminish, until at length they entirely disappear.

In the urine examined by M. Neubauer, the albumen readily coagulated by boiling, being so completely separated by this process, that its weight could be determined. The extremely small quantity of urea and uric acid agrees well with this large proportion of albumen. The nitrogen, which had become useless in the body, was now no longer, as in health, separated by the kidneys, in the former of the two above-mentioned bodies, but as albumen, which was present in the serous fluids as well as in the urine. [*Chemical Gazette.*]

SIMABA CEDRON, AN ANTIDOTE FOR VENOMOUS BITES.

The seeds of this tree are reported, by M. BERTHOLD-SEEMANN, to be an antidote for the bite of snakes, scorpions, and other venomous reptiles. Mr. Squire has obtained a supply of these seeds from New Granada, through a gentleman, who states that the natives place great reliance on their efficacy. It is there customary to carry some of these seeds in case of need; and, directly the bite has been inflicted, a portion of the seed is scraped off, moistened with water, and applied to the wound. From two to five grains, mixed with water, are also swallowed, but no other precaution is taken.

This remedy is also said to have proved efficacious in cases of intermittent fever, when quina has failed; and it has been used indiscriminately in rheumatism and gout, with some benefit. Experiments recently made at the Zoological Gardens, on animals which had been bitten by the rattlesnake and other reptiles, tend to confirm the statements respecting the efficacy of this seed as an antidote. [*Pharmaceutical Journal.*]

PREVENTION OF THE NAUSEOUS TASTES OF MEDICINES.

Dr. Polli, an Italian physician, has observed that some aromatic substances, as orange or lemon peel, chewed just before taking castor-oil, effectually prevents its being tasted. This observation (*if true*,) will also apply to some other nauseous medicines. [*Annals of Pharmacy.*]

TOPICS OF THE DAY.

London, 4th September, 1852.

JOURNALISM. Important changes have been made during the last month in the management of two of our medical periodicals; and an anticipation that in consequence of these changes we might have to announce a considerable modification in the plan of this Journal, has caused us to keep back for some days the present number. The nature of our modifications have not yet, however, been finally settled, and we can only express regret at having no information to communicate in exchange for the disappointment which our breach of term may have occasioned. In our next number the particulars referred to shall appear.

The British and Foreign Medico-Chirurgical Review is in future to have, like the LONDON JOURNAL OF MEDICINE, a department for "*Original Articles*". The eminent physiologist, who has hitherto conducted the work, has resigned his office, in consequence of the pressure of other literary labours; and it is

understood that one of his colleagues, a distinguished professor in University College, is to be his successor.

The Medical and Surgical Journal, hitherto edited for the Provincial Association by Dr. Ranking of Norwich and Mr. Walsh of Worcester, and published fortnightly at the latter city, is after January 1853 to be published weekly in London, and edited by Dr. Cormack. Dr. Ranking has already retired: Mr. Walsh remains at the helm till the close of the year: and he maintains that Dr. Cowan's motion requires to be approved by the Worcester Council, ere it can be legally acted on. In the mean time, the Journal Committee appointed at Oxford are in communication with the Worcester Council, who act as the managing committee of the General Council, and seem to possess unbounded power. It is not known how they are likely to act on the present occasion; but from an expression contained in the following resolution, which they have published in the *Provincial Journal* for 1st September, we infer that they are anxious to prevent a disruption of the Association.

28th August: Resolved,—

"That it is the opinion of this Council, that the publication of any further correspondence on the subject of the Journal should be avoided during the negotiation between this Council and the Journal Committee, for the AMICABLE SETTLEMENT of the question."

A vote of an anniversary meeting does not of necessity carry weight until it has passed the "Central" or Worcester Council. This remarkable peculiarity in the constitution of the Provincial Association is not generally known: and till lately we were inclined to dispute its existence. A recent occurrence, however, illustrates and proves the fact. Although the printed code of laws requires one anniversary assembly to appoint the place at which the next is to be held, and although the Brighton meeting selected Manchester for the meeting of 1852, the Worcester Council overturned that decision, and fixed on Oxford, where the anniversary actually was held. It is therefore plausibly enough argued, that if a decision of the Brighton anniversary was overturned by a Worcester decree, so may be the decision of the Oxford anniversary in the Journal question. The possession of so much power by a small standing body is detrimental; for, even were it never to be abused, it makes members of the profession unwilling to partake of the advantages of a society, from the management of which the mass of members are necessarily excluded.

It is to be hoped that along with the solution of the Journal question, an intention to remove this anomaly may be expressed, as the precursor of an amended code of laws. The profession cannot willingly see a dismemberment of the Provincial Medical and Surgical Association; and now that that which has been a cause of secessions, and an objection with many to join its ranks, is being freely discussed, we trust that speedy and effectual steps may be taken for its removal. We most earnestly dissuade members from retiring: the Association has no blemishes which time, energy, and the kindly spirit which pervades its ranks cannot remove.

Dr. Ranking's Half-yearly Abstract is in future to be edited conjointly by Dr. Ranking and Dr. Radcliff.

PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION. A more perfect organisation of this body is likely soon to be brought about by the multiplication of **BRANCH ASSOCIATIONS.**

A *South Wales Branch* has just been constituted. Its first meeting was held at Monmouth on the 29th August. Dr. G. G. BIRD, of Swansea, was elected President for 1852. The next meeting is to be held at Chepstow, Dr. MORRIS of that place being the President Elect.

Another Branch, to embrace *London and the Suburbs*, is also said to be in contemplation.

QUACKERY AT SCARBOROUGH. DR. ALEXANDER, physician to the Northern Sea Bathing Infirmary, at Scarborough, in a letter to the *Lancet*, of September 4th, exposes a plot by which the homœopaths, etc., had hoped to oust the medical profession from the Infirmary and obtain possession of it for themselves. The following is an extract from Dr. Alexander's letter:—

"The charity had had for some years past but a feeble and languid existence, and although the demands on it, from the increased facilities of communication with inland manufacturing towns, had greatly increased, its means of support had materially diminished. One of the great causes of its decline was, in my judgment, the absence of any responsible medical staff, it being generally supposed that all the medical men who had practised three years in the town, and who subscribed a guinea a-year, were medical officers. The minutes of the infirmary, however, show no such rule to have existed. Be that as it may, it was supposed to exist. No one felt responsible for duty which was shared by so many, and for the discharge of which no credit or reputation was to be obtained. The interest of the medical staff who had hitherto attended the institution was further diminished about three years ago, by the introduction among them—as one of their many colleagues—of a gentleman in this place who practises allopathy or homœopathy, according as the caprice of his patient may dictate. The attention to the charity, which on the part of the profession generally had for some time been diminishing, now ceased entirely. About this time last year, the trustees were made acquainted with the fact, that the deed by which the building was held by them empowered them to sell, lease, shut up, or, in fact, do anything they liked with it. Under these circumstances, the trustees, anxious that the charity should not be lost to the public, determined on reestablishing it *de novo*. To this end, after appointing myself and my colleagues as the medical staff, they requested us to furnish them with our views as to the best means for resuscitating the charity. In conformity with that request, we obtained the opinions of the leading members of the profession, not only in London, but also in those large provincial manufacturing towns, to which an institution of this kind is invaluable as an adjunct to their own hospitals. Those opinions are embodied in the report I enclose you. We placed these before the trustees, in conjunction with our report, and a code of laws for the future regulation of the infirmary. How far our efforts have been successful may be inferred from the fact, that we have already increased the number of subscribers one-half, and the number of beds from six to thirty, and have adopted the self-supporting system, each patient paying for board, lodging, sea-water baths, etc., either four shillings with, or ten shillings without, the recommendation of a subscriber, weekly. This system enables many mechanics and other persons whose means place them just above indigence and that extreme poverty which entitles them to a gratuitous admission to an hospital, to thus obtain the advantages derivable from a marine residence.

"Our success has unfortunately excited the opposition of a certain clique of persons in this place, who, possessing too much talent for their own business, must needs interfere with that of other people; in short, *our friends* are determined, if possible, to foist their homœopathic pet upon us, with whom we are equally resolved, on the principle of 'evil communication corrupting good manners', to hold no professional intercourse whatever. Not having the temerity, however, to bring forward their design in all its naked hideousness, *our friends* have opened their attack in the shape of a masked battery, by a proposition to the following effect:—'*That the rules with respect to the medical officers shall be revised, and that all the medical men in the place—sixteen in number—should be, in turn, for a month each, medical officers to the charity.*' What would be the result of this? We should of course resign, and no medical men of any respectability would act with a homœopathist; the Sea-Bathing Infirmary would degenerate into a homœo-

pathic hospital, with a homœopathic physician, and the building and funds would both be perverted from that purpose which was and is the intention of its supporters."

[At an extraordinary meeting of the Governors, the proposal to make all the medical practitioners in the town medical officers of the hospital for a month in rotation, was *negatived* by an overwhelming majority.]

MULLAR v. THE "MONTHLY JOURNAL." Dr. Mullar having raised an action for defamation against the Conductors, Publishers, and Printers of the *Monthly Journal*, the Lord Ordinary (Wood) required him to prepare an issue for trial, when he gave in the following:—

"It being admitted that the defenders are responsible for the *Monthly Journal of Medical Science*, No. 128, dated August 1851, No. 20, New Series, and No. of Process :

"It being also admitted that, under the title *Medical News*, p. 198, the following article appears in the said Journal:—

[Here follows the article as it appeared in the Journal for August 1851.]

"Whether the statements contained in the foregoing article of the said Journal are, in whole or in part, directly or indirectly, of and concerning the pursuer, and were intended to represent, and do falsely, calumniously, and injuriously represent, the pursuer as the intimate friend, assistant, and associate of a person described as arrogating to himself the title of a professor, without having any right thereto; and who is said to be so disgraced and sunk in the estimation and respect of the medical profession generally, and of his brothers or fellow-practitioners, as to be unworthy of credit, and to have lost all respect and claim to courtesy in their eyes; and as being united with the said person in joint medical undertakings, and in the propagation of false statements, regarding diseases and medical operations, for selfish ends and purposes of their own? And further, as a culpable propagator of falsehood and false statements, regarding medical facts and diseases, of the greatest importance to the health and lives of individuals? All to the loss, injury, and damage of ths pursuer."

Lord Wood has decided that the defenders were not answerable for the meaning which the pursuer thought proper to attach to the words in question, and dismissed the case. [*Edinburgh Monthly Journal for September.*]

EDINBURGH ROYAL INFIRMARY. The new Surgical Hospital is now completed, and will be immediately opened for the reception of patients. It contains 120 beds, which, added to those of the present surgical wards, will afford accommodation for upwards of 200 patients. This part of the establishment is under a separate roof from the medical department, which contains between 300 and 400 beds. The kitchen and other offices lie between the two buildings, and have been furnished with every convenience afforded by the improvements of modern architecture. The operating theatre of this hospital has long been admitted to be the largest and best in existence; and the provision now made for surgical cases will, we believe, be found to surpass that of any other hospital in Great Britain. [*Edinburgh Monthly Journal for September.*]

ARTIFICIAL PRODUCTION OF FISH. An account was given a short time ago of the discovery of the means of producing fresh-water fish to an immense extent, by preserving the eggs of the female, and applying to them, at the suitable time, the milt of the male; and it was stated that an extensive application of the system had already been made with the most extraordinary success in numerous rivers and streams in different parts of France. The French Government, in order to increase the food of the people, and to create a new branch of commerce, has resolved still further to extend the application of the system; and it has directed several eminent scientific gentlemen to occupy themselves with it, and especially to ascertain whether

it can be applied to salt-water as well as to fresh-water fish. In execution of its instructions, M. Coste, member of the Institute, and Professor of the College de France, has visited an establishment for producing fish near Huningen, founded by MM. Berthot and Detzem, engineers of the canal from the Rhone to the Rhine, to see whether it cannot be made to supply all sorts of fish in sufficient quantities to stock all the rivers, streams, canals, and lakes in the country. M. Coste has given an account of his mission in a long report to the Ministers of the Interior, Agriculture, and Commerce; and the report has just been published for public information. After briefly noticing the vast importance of the discovery, and mentioning that the credit of having turned it to a practical account belongs to two fishermen, named Gehin and Remy of Bresse, in the Vosges, M. Coste states that he has ascertained by experiments made in conjunction with Messrs. Berthot and Detzem that the eggs of the fish may be conveyed any distance out of water without losing any of their qualities, and that they may be made by a very simple apparatus, to become excluded or hatched, more safely than when deposited by the female in beds of streams. By this plan, M. Coste asserts that it is possible to get two yields of fish instead of one in the same period of time, and thereby to stock all the waters in France at scarcely any expense. He then goes on to say, that Messrs. Berthot and Detzem have this year, notwithstanding their resources have only been scanty, produced in the reservoirs of the canal, not fewer than a million of trout and salmon. He recommends that a sum of money should be placed at their disposal to carry on operations on a grand scale; and he goes into lengthened details to prove that their establishment, from its position near sheets and streams of water, is peculiarly adapted to become a great centre of the artificial production of fish. He gives a minute description of the apparatus he proposes to employ in preserving the females' eggs, and in causing them to become excluded; and he states that it will enable fish peculiar to the Rhine, to the lakes of Constance and Zurich, and to the Federsee, to be easily produced and naturalised in French waters. He next shows how the extensive reservoirs, which exist or may be created at Huningen, will allow the fish to be divided according to their species and age; and how the fish, when grown up to a certain size, may, if required, be removed from place to place. He proceeds to state that a sum of 22,000*fr.* will be sufficient to prepare the establishment of Huningen for what is required, and an allowance of 8,000 francs a-year enough to keep it up. In the course of his report M. Coste takes occasion to mention the curious experiment he made some time ago of producing salmon in a vessel at the College de France, by simply causing water to flow from a cistern over fecundated eggs; and he says that the salmon so produced are at present more than two inches in length, one-fifth of which they have grown within the last 25 days. He further announces that he has likewise succeeded in producing, also at the College de France, a considerable number of lobsters; and he dwells on the importance to the country of increasing the production of that and other descriptions of shell fish. M. Heurtier, director of agriculture and commerce, has also addressed a report to the Minister, in which he relates the extraordinary results obtained by Gehin and Remy's system, and strongly recommends that the 30,000*fr.* demanded by M. Coste for Huningen shall be at once awarded; also that that gentleman shall be sent into Italy to examine into the means of preserving and producing fish employed near the Adriatic, and especially at Commachio. The Minister has approved of these recommendations.

PHARMACY ACT. The assumption by unauthorised persons of the title of *Pharmaceutical Chemist* has been made illegal by the recent Pharmacy Act; but any man may call himself a "Surgeon" or a "Doctor"! If druggists call themselves "Pharmaceutical Chemists and Consulting Surgeons", how can the public distinguish between them and regularly educated practi-

tioners? The following appears in the *Lancet*, in a letter from a correspondent, regarding "*Defective Registration*". It confirms us in the opinion formerly expressed, that the Pharmacy Act was, in the present state of the medical profession, fraught with injustice and danger to the profession and the public.

"What is the use of my taking the trouble to fill up a 'Medical Certificate of the Cause of Death'?"

"I have a patient a Registrar, and sometimes I amuse myself by looking over the certificates which he has received; from my own observations and his statements, I find that he will grant an order for burial without first receiving my certificate, and this he asserts he dare not refuse; and that he accepts certificates from chemists who sign themselves 'Surgeon', and in one case, 'Consulting Surgeon'. On visiting him yesterday, I found the card of one of these quasi-doctors on his table, and he informed me that he had just let him have a blank book of certificates, as he says—how is he to know whether he is a doctor or not? One more question I should like answered—What is meant by 'If this should fall into the hands of an unlicensed practitioner, he is recommended not to fill it up', or some such words?"

"I can give you more information if necessary, and for my informant's sake, must sign myself, ———."

OUT-PATIENTS. A great delusion is practised at most of our hospitals by the indiscriminate bestowal of advice (?) and drugs on all comers—"out-patients" as they are called. The time in which persons are prescribed for is often only a fraction of a minute; and from the vast number of people who are officially reported to get this kind of advice at our various hospitals, we infer that one or two minutes is above the average amount of time which each applicant has devoted to his case—and that after hours of waiting! The out-patient system pauperises many by leading them to seek charity when they do not require it; it makes all lose valuable time—often a whole day—and the chances are that little if any good is done to the ailments. The monstrous character of this abuse must soon attract public attention; it is ruining some members of the profession by taking their patients: and by impressing the recipients of hospital advice (?) with the valueless nature of therapeutic resources.

WESTMINSTER HOSPITAL. Important alterations are rapidly approaching completion, which will tend to the comfort of patients and officers. In addition to the erection of an operating theatre in connexion with one of the wards, commodious premises are being built for the purposes of the school, so that on and after the 1st October, the education of the pupils will be carried on in premises entirely within the precincts of the hospital. This will doubtless prove of great advantage to the students, more especially as much time and attention are to be devoted to clinical instruction. New arrangements are also being made in the out-patient department, rendered necessary by the increased number of persons who daily seek advice for minor ailments.

APPOINTMENTS.

CORMACK, John Rose, M.D., has accepted the editorship of the *Provincial Medical and Surgical Journal*, offered to him by the Committee of the Association appointed at Oxford to make the necessary arrangements for its Journal being published and edited weekly in London, (after January 1853), in place of fortnightly in Worcester, as at present. The salary is £250 per annum.

HOOD, Dr., elected Resident Physician of Bethlem, at a salary of £700 per annum, and the opportunity of greatly augmenting that stipend by clinical teaching.

MACFARLANE, John, M.D., appointed by the Right Hon. Spencer Walpole, Secretary of State for Home Affairs, to the Chair of Medicine in the University of Glasgow, vacant by the death of Dr. William Thomson. Besides a free house in the College, graduation fees, and class fees, the chair is endowed with a stipend averaging nearly £300 per annum.

MILLAR, J., Esq., Resident Assistant-Surgeon of the Asylum, Bethnal Green, appointed Resident Medical Superintendent of the Bucks County Asylum.

TYERMAN, D. F., Esq., Medical Superintendent of the Cornwall County Lunatic Asylum, has been elected Resident Medical Officer of the male department of the Middlesex Lunatic Asylum, Colney Hatch, in the room of Dr. Hood, appointed to Bethlem. Salary £200 per annum, with a furnished residence, and an annual allowance of £150, (in lieu of board), with coals, candles, milk, and vegetables.

OBITUARY.

ATKINSON, James, Esq., late Inspector-General of Hospitals, Bengal Medical Service, on 7th August, at his residence, 18, Dorset Square, London.

BAILEY, Robert, Esq., Surgeon, on 6th August, at Wootton-under-Edge, aged 74.

BENNETT, Lucas, Esq., Surgeon, on 26th July, at Winterton, Lincolnshire. The deceased was House Surgeon to the Leeds Infirmary in 1804, in which year he was admitted a member of the Royal College of Surgeons, after which he was Lieutenant-Surgeon in the West York Militia. During a practice of about fifty years he had been settled at Chew Magna, (Somerset), Colchester, (Essex), Deal, (Kent), and also at Barton-on-Humber. He died of paralysis, leaving a widow and eight children. The widow and two of the daughters are entirely unprovided for.

BURKE, Dennis, M.D., a native of Ireland, aged about 100 years, died at Washington, on 28th June. He was an assistant-surgeon for many years at West Point.

DEVONALD, E. L., Esq., of 71, Great Titchfield Street, and 6, Howley Place, Harrow Road, on 27th July, at 6, Howley Place. Mr. Devonald is described in the *Medical Directory* as "in practice prior to 1815".

EBSWORTH, Richard, Esq., Surgeon, of Shillingford, on 3rd August, at Brighton, after severe illness, aged 41.

GOODHART, Alfred H., Esq., Surgeon, at his residence, 84, Camden Road Villas, on 28th August.

JONES, Edward Morse, Esq., Surgeon, only son of the late Thomas Jones, Surgeon, of Temple Cloud, Somerset, on the 6th of August, at Morro Velho, Minas Geraes, Brazil.

KINNIS, John, M.D., F.R.S.E., Deputy Inspector General of Hospitals, on 18th August, at Edinburgh, aged 58.

KIRK, Rupert, Esq., on 31st May, Surgeon in the Bombay Medical Service, at Rajcote, Hattiwari, in the province of Bombay, aged 45.

MAYO, Herbert, Esq., formerly Senior Surgeon to the Middlesex Hospital, and Professor of Physiology at King's College, London, at Bad Weilbach, near Mayence (on the Rhine), on 15th August. Ten years ago, Mr. Mayo had a fair reputation: latterly he embraced hydropathy and Mesmerism, and went over to Germany to practise these heresies among the English fashionables who flock to Mayence, etc., when exhausted with the enervating whirl of a London season. In private life, Mr. Mayo is said to have been amiable, but rather conceited.

O'FLINN, Daniel, M.D., Resident Magistrate, etc., at the Cape of Good Hope, on 28th June. Dr. O'Flinn was much respected. He had practised about thirty years at the Cape.

RECKITT, William, Esq., on 6th August, at Boston, Lincolnshire, from apoplexy.

ROBINSON, William, Esq., Surgeon-Dentist, (M.R.C.S.Eng.), at his father's residence, Spencer Street, Carlisle, after a week's illness of malignant scarlatina, aged 23.

SWAYNE, John Champeny, Esq., Surgeon, late of Berkeley Square, Bristol, at his residence, Pucklechurch, Gloucestershire, on 8th August, aged 66.

TUPPER, James Perchard, M.D., late of Paris, on 30th July, at Boulogne-sur-Mer, aged 77.

UNDERWOOD, Charles, M.D., fifth son of the late Rev. T. Underwood, Rector of Ross, and Canon Residentiary of Hereford cathedral, on 1st July, at Malta.

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ORIGINAL COMMUNICATIONS.

PRACTICAL REMARKS ON THE "STOMATITIS ULCEROSA" OF CHILDREN, WITH CASES.

By F. W. MACKENZIE, M.D. Lond., Physician to the Paddington Free Dispensary for the Diseases of Women and Children; Fellow of University College, etc.

PRACTITIONERS who are much engaged in hospital or dispensary practice, or even in that of the metropolis, must often meet with troublesome cases of stomatitis ulcerosa, or ulcerative affections of the mouths of infants and young children; and these not arising from any specific cause, but depending solely, or principally, upon debility, or a deteriorated condition of the general health, with possibly some trivial local cause, in some cases, superadded. I have myself had occasion to treat many such cases, more especially in public practice; and having found the following simple method of treatment, almost invariably, speedily and certainly successful, I am induced to make it the subject of a brief communication.

The term "stomatitis ulcerosa" sufficiently and accurately expresses the nature of this affection; but in its mode of origin, situation, and extent, it presents many varieties. Thus, in one form, it commences as a small inflammatory spot, either on the frenum of the tongue, the outer surface of the gums, or the mucous membrane of the cheek or lip; but, wherever it commences, ulceration speedily supervenes, attended with febrile disturbance, a coated tongue, profuse salivation, and a disordered state of the stomach and digestive organs. In another form, it is found to be connected with the passage of some of the larger teeth through the gum, more especially when several are about to make their appearance together. In this case, the gum becomes swollen, painful, and dark-coloured; and, after a few days, the portion over the protruding teeth gives way by ulceration, which, in some cases, extends considerably, attended with tumefaction of the mouth

and cheeks, increased salivary discharge, and febrile disturbance. More frequently, however, it commences with a general swelling and irritation of the gums, together with much fœtor of the breath, a coated tongue, and much gastric disorder. Along the upper margin of the gum, or rather that which is in contact with the teeth, a line of ulceration now soon becomes developed; and this, when once begun, rapidly spreads, the gums, at the same time, being spongy, swollen, and very painful. Unless excited by some local cause, such as the irritation of a decayed tooth, it usually commences in the lower jaw, and from thence is communicated to the mucous membrane of the corresponding cheek. The irritation attending it affects the salivary and cervical glands in a remarkable manner; both become swollen, and the former secrete so profusely that the child appears to be constantly dribbling. In this form there is generally some febrile disturbance, and much gastro-intestinal disorder. If severe, it may not only cause destruction of the gums, but loosening of the teeth, suppuration of their sockets, and partial necrosis of the jaw. Its intensity, however, varies very considerably in different cases; in some it is so slight as to require little or no special treatment, whilst in others it can only be controlled by very prompt and energetic measures.

These diseases are almost peculiar to the period of infancy and childhood; and, as far as I have observed, occur principally in children who have been badly fed, are exposed to atmospheric vicissitudes, reside in unhealthy localities, or have been born of strumous or syphilitic parents. That it is essentially a constitutional affection, and not merely occasioned by bad air, endemic influences, or unwholesome food, is, I think, certain; for I have known it to occur in robust-looking children, who had been living in healthy, open, situations, and well supplied with good nourishment, and all the necessities of life. In these cases, however, the disease was almost invariably found to have arisen from some local irritation, such as that of a carious tooth; and, when protracted, to be connected with some latent scrofulous taint; whereas, in other cases, it will arise in the absence of any local cause, and, apparently, from nothing else than a very deteriorated condition of the health.

In the general management of these cases, we are directed to employ, locally, strong solutions of the nitrate of silver, or of the sulphate of copper or zinc, with or without astringent, stimulating, or detergent gargles, and to administer, at the same time, quinine, tonics, and a liberal diet. I formerly followed these instructions closely, but sometimes with equivocal success; and I am now, after repeated trials, disposed to give the preference to the following method of treatment. It consists in removing, in the first place, any apparent cause of irritation, such as a decayed tooth, should it exist, and in applying, daily, the dilute nitric acid of the pharmacopœia, to the whole of the ulcerated surfaces, by means of a sponge, or camel's-hair pencil; whilst, at the same time, the sesquicarbonate of ammonia is given in full doses, combined with the citrate of iron. When the tongue is coated, and the alvine discharges are unhealthy, it is necessary to premise an emetic of ipecacuanha and squills, as well as a purgative of calomel and rhubarb. It is also necessary that the patient should be well supported by a nutritious diet, and an adequate allowance of malt liquor, or wine.

I will briefly add, that the employment of ammonia in these cases was first suggested to me from observing its beneficial effects in the ulcerative affections of the mouth and throat, which occur in children in connexion with scarlet fever. And, alone, it will accomplish a cure, as some of the following cases shew, although less speedily than when combined with the citrate of iron and the local application of dilute nitric acid. The latter remedy appears to have a remarkable influence in improving the character of the ulceration and arresting its progress. The sloughy, dirty, yellowish appearance, which it generally presents, is soon changed for a florid, healthy, granulating surface; and this result would appear to depend upon the moderately-stimulating properties of the remedy, which are not disproportionate to the exhausted vital powers of the part. The following cases will serve to illustrate the results of this practice.

CASE. J. F—d, aged 3, was brought to the Paddington Free Dispensary, January 3, 1851, suffering from severe and well-marked ulcerative inflammation of the mouth. The gums throughout were swollen and spongy, and the margins adjoining the teeth were deeply ulcerated; the right cheek was swollen and tense, and, internally, the mucous membrane was extensively ulcerated; the breath was fetid, the salivary secretion very great, and the glands, below the jaw, swollen and painful; the tongue was much furred, the appetite bad, the bowels disordered, and the child's appearance generally cachectic.

TREATMENT. R. Ammon. sesquicarb., ferri ammon.-citrat., āā gr. v, quartâ quâque horâ sumend. ex aquâ.

R. Acidî nitrici dil. ʒss., ft. lotio modo dicto bis die utend.; ol. ricini ʒj. mane p. r. n. s.

January 10th. The child is, in every respect, improved; the gums are looking healthier, as is also the ulceration of the cheek. *Persistet.*

January 14th. The child is convalescent, scarcely any ulceration being any where perceptible.

CASE. Mary S—r, aged 4, was brought to the Paddington Free Dispensary, Feb. 4th, 1851, suffering from ulcerative disease of the gums, throat, and inner surface of the cheeks. She had always been an ailing and delicate child, and had now a very strumous appearance. The disease was first perceived by the mother about a week ago, whose attention was drawn to it by the child's breath being very offensive; and, on examining the mouth, she found it ulcerated as described. The child's appetite is bad, her bowels irregular, and tongue coated.

TREATMENT. R. Ammon. sesquicarb., ferri ammon.-citrat. āā gr. v, quartâ quâque horâ sumend. ex aquâ.

R. Acid. nitric. dil. ʒss., ft. lotio modo dicto bis die utend.

February 11th. Much better; ulceration, generally, much less, and looking healthier. *February 15th.* Quite well.

CASE. Edward B—t, aged $2\frac{1}{2}$ years, was brought to the Paddington Free Dispensary, Aug. 1851, suffering from ulcerative disease of the mouth, lips, tongue, throat, and inner cheeks. His breath was offensive, the tongue foul, and the pain produced by the ulceration was so severe that he could neither eat nor drink without extreme suffering. His nights were much disturbed; he was feverish, and the bowels were a good deal disordered. The child had been, for some time, out of health, and, indeed, never very strong.

TREATMENT. R. Ammon. sesquicarb., ferri ammon.-citrat., āā gr. v., quartā quāque horā sumend. ex aquā.

R. Acid. nitric. dil. ʒss., ft. lotio modo dicto bis die utend.

Under this treatment the child's mouth got perfectly well in a week; but the medicine was continued for some time longer. On the 20th September the child was brought to me again; he was then in the possession of perfect health, and the mother told me that he was better than she had ever known him to be.

CASE. Frances F—r, aged $2\frac{1}{2}$ years, was brought to the Paddington Free Dispensary, Dec. 13th, 1850, suffering from severe ulceration of the gums, lips, and cheeks. She had never been very strong, and had latterly been living in a low, badly-drained house. She had been suffering from the disease for three weeks, and, when admitted, was weak, pale, and cachectic.

TREATMENT. R. Ammoniae sesquicarb., ferri ammon.-citrat., āā gr. ij ss., quartā quāque horā sumend. ex aquā. R. Acid. nitric. dil. ʒ ss., ft. lotio modo dicto bis die utend.

December 23rd. This treatment had been continued for rather more than a week, and the child is now perfectly well.

CASE. Hannah W—e, aged $1\frac{1}{2}$, was brought to the Paddington Free Dispensary, July 15, 1851, suffering from ulceration of the mouth and gums. The child's breath was disagreeable, her tongue coated, and the stomach and bowels disordered. She had been living in a low unhealthy locality, and had been ill a fortnight before applying at the Dispensary, and had been daily getting worse.

TREATMENT. R. Ammoniae sesquicarb. gr. iij ss., sæpe sumend. ex lacte. R. Pulv. purg. gr. v, hs. pr. r. n.

July 25th. Ulceration healed, and child perfectly well.

CASE. Isaac H—r, aged 11, applied October 1, 1850, suffering from ulcerative inflammation of the gums and mucous membrane of the right cheek. His father had observed that his breath was very offensive the preceding day, and, on looking into his mouth, found it ulcerated. The mouth had a strongly gangrenous appearance; the fœtor was very great. He could not masticate without difficulty, and the tongue was furred and excoriated. He was ordered six grains of the sesquicarbonate of ammonia, every four hours, in water, and, at the same time, a nutritious diet, with porter. In a fortnight he was quite well. A brother and sister of this boy were attacked at the same time, in a similar way, and recovered, under the same treatment, in about a fortnight.

Chester Place, Hyde Park Gardens, Sept. 1852.

ON A CASE OF ARM-PRESENTATION SUCCESSFULLY
CONDUCTED WITHOUT TURNING;
AND ON THE PRACTICABILITY OF CONVERTING SUCH CASES
INTO NATURAL LABOURS.

By R. G. MAYNE, M.D., Surgeon to the Leeds Lock Hospital, and to the Leeds and West Riding Female Penitentiary.

It has, for so long a period, been an established axiom in obstetrics, to *turn* in every case of arm-presentation, where turning may be yet practicable, that to propound a different resource for overcoming the difficulty attending that malposition of the child, in any case, will appear little short of hyperbolical extravagance. There was a time, however, when *foot-version* was unknown; and even at the risk of being presumed guilty of flagrant heresy against a universally-received doctrine, I lay before the profession the particulars of a case conducted upon another principle, and with a successful termination.

CASE. On 20th June 1852, I was summoned to attend Mrs. H., on occasion of her first accouchement, and reached her house at 6 o'clock A.M. She was of sallow complexion, a small, lean figure, and thirty-six years of age. She had had pretty smart pains since 4 o'clock, P.M., of the previous day, and the membranes had given way, with considerable discharge of the waters, an hour before my coming. I found her walking about her bedroom, her progress arrested every now and then by regular and evidently powerful uterine contractions. After a little while spent in persuading her to submit to examination, I ascertained that the os uteri was dilated to the extent of a half-crown piece, and that the case was one of arm-presentation, my finger-point at once encountering several objects, which gradually became distinguishable into the fingers of a minute left hand, resting in close contact with the acromial portion of the shoulder of the same side, and the broad surface of the corresponding scapula. The occiput, and the back of the child, were thus directed to the abdomen of the mother; its head above, or resting upon, her *right* ilium, as she lay, in the usual posture, on her left side.

The discovery was far from agreeable, having particular duties to attend to for the day, which the nature of the presentation, the stature, aspect, and age of Mrs. H. allowed little expectation of my being able to perform. The pains continuing vigorously recurrent, I did what I could to promote dilatation by repeatedly passing the finger, with some slight degree of pressure, round and within the tense rim of the os uteri, during the contractions. By seven o'clock A.M. such progress had been made, that the child's hand and greater portion of the forearm had entered into the vagina, the upper, or humeral portion, and arm proper itself, being detained by the cincture, formed by the cervix uteri, binding down and hindering the passage of the elbow.

In accordance with early precept and past practice, I contemplated the operation of turning as the orthodox expedient to be adopted, and commenced by introducing the fingers and thumb of my left hand, conically packed together, into the vagina, which, from the rigidity of

parts, would admit no more, even after some perseverance. I persisted in trying to urge my way, though every movement—even of a finger-joint—provoked a more energetic resistance. I also made some attempts to push the child's hand and arm up into the womb, with the view of securing greater facility in preparing for the contemplated operation of turning; but each expulsive effort sent them forth again as before. Could nothing be done to alter this state of things? This question presented itself over and over again, as with all my efforts I could make no progress towards foot-version; and I resolved to try.

The idea of the practicability of returning the arm, and of exerting a repressing force upon a part of the presentation, according to circumstances, so as to convert the case into one of natural labour, had formerly occurred to my mind when engaged on one or two similar occasions, and I had then endeavoured to act upon it, but found to my disappointment, that matters resumed their faulty condition so soon as such endeavours ceased. In those cases, however, the protrusion of the hand and arm was much more complete, when I was first called to them, and had existed for a longer period, than in the present instance. Here, there were circumstances of one kind which seemed favourable to the prosecution of the idea; thus, the presentation had but partially entered or dipped into the cavity of the pelvis, and, as yet, the hand and part of the fore-arm only had escaped beyond the constricting band of the cervix uteri. But there were also others, as the discharge of the liquor amnii about two hours before, the patient being a primipara, her constitution and age, which inclined to the reverse. The latter considerations, however, were equally inauspicious as to any facility to be hoped for in performing the operation of turning; and, therefore, with my hand firmly wedged in the vagina the while, I, after repeated though hasty and anxious deliberation on all these points, decided on the propriety of making a persevering effort to alter the character of the presentation.

Having quite failed in carrying my hand beyond the second joints of the fingers and thumb, every endeavour to do so causing painful and loudly complained of increase of the contractions, I extricated my thumb altogether from its confinement, by which the fingers were now enabled to pass in a flattened form of the metacarpus, as far into the passages as the junction of the thumb with the fingers at its first joint would permit. By this means, I pushed the child's hand and arm (in reference to the position of the mother) *back*, or (in relation to the erect posture) *up* towards the fore part of the body of the womb, till they rested above the pubic portion of the pelvis, to which point my own fingers also reached, and steadily retained them there, by uninterruptedly bearing upon the latter, or rather upon the arm proper, a little above the elbow, for one hour and a quarter. During this space, the pains, which were uncompromisingly withstood, so far as they could affect the arm and parts against which it was urged, regularly recurred, and slowly advanced the labour, so that the descending presentation began to press uncomfortably on my already cramped fingers.

The woman had for some time complained of my *pushing back the child* at every pain; and, in no gentle tones, now ordered me to desist altogether, at least for a time. Her friends, impressed with some alarm by her vociferations, added their remonstrances to the same

effect. Therefore, having carried out my intention as far as was possible, I withdrew my hand, resolved to abide the issue, without any further active interference. Leaving her to herself for a short time, in which several pains occurred, I was much gratified and encouraged, upon a digital examination, in finding that the arm had not again descended, and that the labour was making perceptible progress. Deriving relief and confidence from these two facts, yet conceiving that whatever course the case should take, I might now safely leave for an hour, in order to fit myself for the day's engagements, I retired at half-past eight A.M.

At half-past nine A.M. I again saw my patient, and really felt overjoyed to find a perfectly natural presentation. At ten minutes past ten A.M. I delivered her of a well-formed male child at the full time, with only a slight swelling of the left hand and fore-arm, who is yet alive, if not to *tell* the tale, at least to afford evidence of the practicability of acting successfully upon my idea. The mother, in common parlance, had not a bad symptom; and is now in her accustomed health.

Is there any novelty in this? Not much, perhaps; for the wish to return the arm has, in all likelihood, occurred to every practitioner who has found himself involved in such circumstances, and by many, probably, the attempt has been made. But it occurs to my mind, that due attention may not have been given to the *conditions* under which alone success in such a case might reasonably be hoped for; the chief being—adoption of the necessary expedients at a sufficiently *early* period of the labour, and *unbroken perseverance* in their employment, till it has advanced so far that the hand and arm have not space left again to descend, but are kept *in situ* by close contact with the uterine, supported by the pelvic parietes, till nature by her own surpassing agency, comes to aid our efforts, and make all right. Anything that is new in the affair, lies, I apprehend, in the careful observance of those conditions.

Importance attaches to the case detailed, when we regard the frequently serious results of turning, and the horrible alternatives resorted to when turning has, by neglect, delay, or otherwise, become impracticable. Happily, arm-presentations are of comparatively rare occurrence; but every man to whose lot the few in his professional experience may fall, must heartily wish them more rare still, as the most tedious, annoying, and, often, sadly eventful in the whole range of obstetrics. As the foundation of these sentiments, I beg leave to offer one or two examples from my own practice, and to refer to recorded statements and opinions of established authorities, as to others.

Some years ago, I was requested to go to an accouchement in the place of another practitioner, who, the messenger said, was similarly engaged elsewhere, but would very speedily relieve me. I proceeded to the house indicated, but there found a third medical man, busily employed with the case; this person, it was explained, had been applied to before I was sent for, but from some confusion it was supposed that he would not come. He hurriedly begged that I would have the goodness to attend to a patient of his, a street or two distant, until he should finish his present engagement, which he assured me would not detain him many minutes. I went to this second case, which to my

amazement proved to be an arm-presentation of many hours' standing, (the hand and fore-arm were extruded beyond the os externum,) which the individual who wished to impose it upon me, had made himself cognisant of, but had deserted without attempting to remedy. Disgusted with the very deliberateness of his purpose, I felt that from neglect the prospect for the poor sufferer was most unfavourable, and yet that I could not take one step in the case without assuming the serious responsibility of its issue. I waited half an hour in anxious hesitation, and then sent peremptorily for the practitioner who had placed me in this painful predicament. He had completed the delivery in which he had been engaged, and left the house. I sent again and again to his residence, and wherever he was thought likely to be found, insisting on his immediate presence. Another hour elapsed ere he thought proper to appear, when I gave up my unfortunate charge into his hands and withdrew. The woman died that evening undelivered.

Upon another occasion, I was sent for to the wife of the master of a canal-boat, which had just arrived in the docks at two o'clock P.M. Here, too, the hand, etc., had appeared beyond the os externum as early as four o'clock that morning; but, being plying on the canal, no assistance had been sought till now. I sat,—it was impossible at any time to stand erect in a space scarcely five feet in height, and only about six feet by four in its whole extent between the opposite berths,—till nine o'clock at night, seven hours of the most wearying toil, both to mind and body, that I ever underwent. I succeeded in turning, the child being dead; and the boat was dragged ten miles further on its course the same night. I afterwards ascertained that the mother had a protracted struggle for recovery, of several months; that she never became strong, and died within two years, of disease believed to be the consequence of her hard labour on that occasion.

Other two cases, in which, as already stated, I had endeavoured to return the arm, but without success, ended more fortunately, delivery being accomplished by turning.

Dr. John Burns, in his work on Midwifery,¹ says: "When the hand and arm have been protruded, and the shoulder forced down in the vagina, it has been the practice with many, before attempting to turn, to return the arm again within the uterus; and when this was impracticable, it has been torn, or cut off, especially if the child were supposed to be dead; but children have been born alive in this mutilated state. . . . By the means pointed out, we may in almost every instance succeed in delivering the child. But it must be acknowledged, that in some cases, from neglect, or mismanagement, the woman is brought into great danger, or may even be allowed to die undelivered. This catastrophe proceeds sometimes from mere exhaustion, or from inflammation, but oftener, I apprehend, from rupture of the uterus; or, in a neglected case, so much irritation may be given to the system, as well as to the parts concerned in presentation, that although the delivery be easily accomplished, the woman does not recover, but dies either from pulmonic or abdominal inflammation, or fever, or flooding. Moreover, such tedious cases generally end unfavourably for the child."

¹ Ninth edition, p. 421.

² Ibid., p. 422.

Again Dr. Burns states:² "When turning has not been practicable, if the child were supposed to be alive, the os uteri has been cut, or the Cæsarean operation has been proposed and practised." (In support, he refers to M. Baudelocque's Memoir in *Recueil Period.* tom. v, table i, cases 5 and 12.) "If dead, it has been extracted by pulling down the breech with a crotchet," (Peu, *Pratique*, p. 412; Smellie, 1722, col. xxxv, case 3; Giffard, 1725, case 3,) "and sometimes, in order to assist delivery, the body has been mutilated." (Perfect, vol. i, p. 351; Dr. J. Hamilton's cases, p. 104, who found it necessary to separate three of the vertebræ. Dr. Clarke, who twisted off the arm, and perforated the thorax freely (*Med. and Phys. Jour.* vol. viii, p. 394,) "or the head opened with a perforator. This ought always to be done when, on the one hand, the presentation cannot be raised to admit of turning, and on the other, there is no appearance of the process named spontaneous evolution taking place."

The present case is so singular in its new and successful mode of treatment, that I can find no allusion to anything similar in obstetrical works, and therefore feel somewhat staggered by the solitariness of my impressions of its true nature. *Head-version*, it is true, or the grasping of the child's head *in utero* by the hand of the accoucheur, was the recognised practice in arm-presentations down to the time of Ambrose Paré, who was among the first, if not the first, to discover and recommend the superior advantages of *foot-version*. But the former operation, which, one would judge, must have indispensably required access of the operator's hand to the child's head, ere the membranes were ruptured, bears no resemblance to the *modus operandi* pursued on this occasion.

Was it a case (as a friend prudently suggested) merely of the hand descending with the head? Certainly not; I have met with such a combination repeatedly, which never caused any trouble, but cannot assimilate it in any degree with the presentation in question. Here, the hand was not accompanied by the head, but *associated* (when first discovered) with the acromial portion of the left shoulder, which, with the broad surface of the scapular region of same side, then formed the presentation. Besides, the hand and fore-arm did, subsequently, and many times, descend into the vagina, while the head (resting above the right ilium) could not be reached at all.

Is it inconceivable that the firm repressing power (much complained of by the woman, it may be remembered, as "*pushing back the child*") persistently exerted for one hour and a quarter, *primarily*, above the elbow of the presenting arm, in the direction of the *left* ilium of the mother, and thus bearing, *secondarily*, upon the child's breech, which lay in the same direction, could—as it effected the progressive movement of the arm from the position in which it was first found, near to the mother's *right* ilium, on, and up, till it rested permanently opposite and partially beyond the *left* horizontal ramus of the pubes—induce the entire change of presentation? Is it inconceivable that such repressing power, steadily maintained, *tertiarily*, upon the corresponding parietes towards the fundus of the womb, could so relieve the opposite parietes, towards the lower or cervical portion, from the pressure of the foetal head, as to enable the muscular fibres of that portion to contract with greater vigour, and act an important part in

assisting to correct the mal-position, by *wearing*—to borrow a nautical phrase—the head down to and into the pelvic cavity, simultaneously with the breech being urged upwards to the fundus? In answer to both questions, with extreme deference, I think not; and should another arm-presentation case ever come in my way, under suitable circumstances, I will desire to put in practice the very same course, modified only according to variety in position of the child, to be presently noticed, which I unqualifiedly believe has been successful in this occasion.

Two inquiries suggest themselves. 1. Would the same manipulations produce a like result, if the child's *right* arm presented, its *face* and *abdomen* corresponding with those of the mother, the head still resting upon, or above her *right* ilium? In that case, I should proceed in precisely the manner described, and hope for a similar termination. 2. Would the same management be applicable, if the longitudinal position of the child *in utero* were reversed from that in the instance related, the presentation being, then, the right or left arm, but with the head, whether occiput or sinciput, situated on, or above, the mother's *left* ilium, and the breech in the direction of her *right* ilium? Yes: but it would be necessary that the woman should lie upon her *right* side, and that the repressing force be employed by the *right* hand of the accoucheur.

Leeds, Sept. 10, 1852.

ON THE PATHOLOGY AND TREATMENT OF SOME OBSCURE CASES OF LONG-CONTINUED PAIN IN BONE.

By HENRY LEE, Esq., F.R.C.S., Surgeon to the Lock Hospital, etc.

The pain which attends suppuration in the interior of a bone, is not always in proportion to the pressure exercised by the confined fluid. It arises, apparently, in some cases from the tension produced in the condensed bone by the interstitial deposit of fresh bony matter. In other instances, a very small quantity of matter contained in soft spongy bone becomes a source of irritation, and appears to determine to, and fix in, the part some pain depending upon constitutional causes, and which, were it not for the disease in the bone, might have fallen upon some other region. The morbid sensations once established will continue, although not originally produced by the local disease, until that is removed; and even after it has been removed they will, as if from confirmed habit, shew a tendency to return to their accustomed place. After a time, however, if the cause which has determined the pain to a particular spot be removed, and no fresh source of irritation be present, the symptoms will cease. The piece of bone from which the accompanying wood-cut is taken, was removed from the tibia of a person of highly nervous temperament, who had for years suffered most severe local pain, and been subject to a great variety of treatment under different medical men. At length the operation of tre-

phining the tibia was performed by Sir B. Brodie. The pain did not immediately cease, but after an interval the patient permanently re-

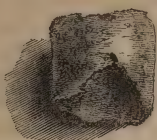


Fig. 5. Portion of thickened but soft bone, removed from a lower extremity of tibia, shewing the cavity of a small abscess.

covered. The drawing (for which I am indebted to the kindness of Mr. Charles Hawkins) shows how small the cavity was in which the fluid was contained, and the soft and spongy nature of the bone in its immediate neighbourhood.

The following case appears to show, that a constitutional affection produced by syphilis or mercury, may in like manner be determined to, and localised in, a particular bone; and that the symptoms may there be kept up for almost an unlimited time by a very small quantity of matter in its interior.

CASE III.¹ A married woman, of a light complexion, and twenty-four years of age, was admitted an out-patient at King's College Hospital in the year 1849. The left knee-joint was at that time enlarged and painful, a puffy elastic swelling presented itself on the outer side of the joint, affording somewhat the appearance of a dislocation of the patella: very little fluctuation could be detected within the synovial membrane. The whole of the surrounding parts were painful, but the pain appeared to be of a very different character, and much more severe when the weight of the body rested upon the affected limb, or when the knee-joint was bent. The principal suffering was, however, experienced at night, and especially after she had become warm in bed. The deep-seated "pain in the bone", would then entirely prevent her from sleeping. This condition had lasted, in a greater or less degree, for a year before she applied to King's College Hospital. Three years previous to this she had been treated for syphilis, and had taken mercury several times.

The joint was directed to be kept at rest, and three or four grains of the iodide of potassium were given three times a day. Under this treatment the swelling soon subsided, and the pain was much relieved. The joint could now be freely examined, and it became evident that the head of the tibia was the principal seat of the disease. Being relieved of her symptoms, the patient now discontinued her attendance, but remained free from pain for a short time only, when she again applied at the hospital: a repetition of the former treatment was again followed by complete relief. As soon as she discontinued her medicine, however, the symptoms returned. In this way she continued under treatment for three years, and at one time persevered with the iodide of potassium for six months without any material intermission. As long as she took the medicine she was easy, but upon discontinuing it the pain invariably recurred.

Being tired out by the long continuance of the disease, she now

¹ The cases of trephining the tibia are in continuation of those previously given.

wished, if possible, that something more should be done, and I mentioned to her that permanent relief might possibly be afforded by trephining the head of the tibia, where, as I conceived, some local cause was keeping up the disease. The patient, who before had refused to go into the hospital, now readily consented, for the purpose of having the operation performed. On her admission, the left leg, round the head of the tibia, measured half an inch in circumference more than the right. There was comparatively little pain or swelling, as she had been taking her medicine for some days; but she complained of tenderness upon pressure about the insertion of the ligamentum patellæ, and over the upper part of the internal tuberosity of the tibia, which was evidently enlarged. As the shaft of the bone was in no way affected, and the pain and swelling were confined to the immediate neighbourhood of the joint, it appeared that the epiphysis of the bone had originally been the seat of the disease. It became, therefore, necessary to apply the trephine to this part, taking care, at the same time, to avoid injuring the articulation. I had the advantage of Mr. Fergusson's and Mr. Partridge's advice; the operation was performed with their concurrence.

On the 29th of May, a T-shaped incision having been made over the upper part of the internal tuberosity of the tibia, the parts below were carefully separated with the handle of the scalpel, until the bone was felt with the point of the finger. The trephine, which was made purposely, with a very deep blade, and not more than a third of an inch in diameter, was now applied. As soon as the outer shell of bone was perforated, the cancellous structure was felt to give way under the pressure of the instrument, and some minute and separate flakes of white matter were observed to escape with the blood by its side. After the operation, water dressing was applied, and an opiate ordered at night. On the first of June, the patient stated that her leg had not felt so easy for four years. She had slept well every night since the operation, and was free from pain. There was no fever.

On the 4th the knee felt stiff and sore, and rather uncomfortable, but she had had no return of the "old pain"; a gutta percha splint was placed behind the joint.

5th. She was again free from pain.

7th. There was now, for the first time, some return of what she distinguished as the old pain.

12th. All uneasiness had now subsided without any medicine, and she felt quite comfortable.

18th. Had again some discomfort about the knee, but no further return of the former pain. The puffy swelling on the outer side of the tibia, which had in a great measure subsided, now increased, and became painful upon pressure; a diseased gland in the neck at the same time began to enlarge. She was ordered some citrate of iron in combination with the small doses of the iodide of potassium, and was directed to get up, as it was supposed that her present symptoms depended in a great measure upon her confinement to bed. In a week after this time she was enabled to leave the hospital, when her general appearance rapidly improved.

On the 24th of August her health was quite restored; she could raise her leg without any pain or inconvenience, and had experienced no return of the "old pain" since leaving the hospital.

The idea of trephining the tibia in this case was suggested by a case which occurred at the Lock Hospital, during the period when I held the office of house-surgeon. A young and delicate woman, after other symptoms which it is unnecessary to detail, became subject to intense and uninterrupted pain in the right thigh. The disease was relieved by none of the means employed, and the patient at length, after most protracted and severe suffering, died, apparently worn out by the pain. On making a section of the bone, I found that its cancellous structure was occupied at different parts by a morbid deposit. This occurred in irregular patches, completely filled the cancelli, and was of a light brown colour. It was moderately firm in consistence, and upon a chemical examination by Dr. Beale, of Carey Street, was pronounced to consist chiefly of fatty matter. The parietes of the bone were greatly thickened, and a kind of cancellous structure had been developed between the original outline of the bone and the newly-formed portions.

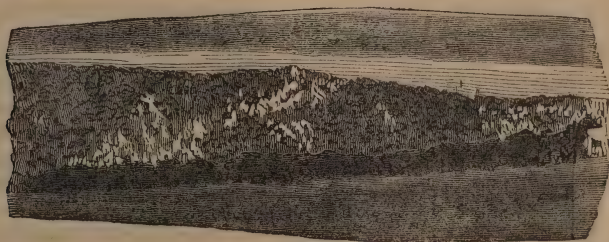


Fig. 6. Representing morbid deposit in bone.

The extreme distress which this patient endured arose probably from the tension produced by the interstitial deposit of bony matter: whether determined in this individual instance by the presence of diseased matter in the interior of the bone, or not, I will not undertake to say; but, in either case, it appeared probable that the pain which constituted the really serious part of the disease might have been relieved, had a sufficient opening been made in the bone. If the morbid deposit kept up the irritation and produced the surrounding thickening, an artificial opening might at once have afforded relief. The object of such an opening would be not necessarily to remove all the diseased matter in the interior of the bone, but that it might be dissolved and expelled in the subsequent suppuration. If, on the other hand, the real disease were independent of the deposit in the cancellous structure, the removal of a portion of the dense and hard crust of the bone would be the means most likely to relieve the tension of the parts. Such were the considerations which determined me, should an opportunity present itself, to try the effect of making an artificial opening in cases of long-continued pain in bone, not yielding to internal remedies, and following the action of a morbid poison upon the system. In such an experiment there is everything to be gained and nothing to be lost. For should the operation entirely fail in removing the symptoms, the patient is not left in a worse condition than before.

The morbid deposit in the interior of bones to which I have alluded, may, I believe, take place so as to occupy a large portion of their

cancellous structure; and that it then becomes a source of irritation in some cases, I cannot doubt, from the fact of openings being occasionally formed by a natural process of ulceration in bones long affected, as if to allow an exit for the morbid matter. These points are illustrated in the accompanying figure, for which I am indebted to Mr. Harrison, of the Albany Court-yard.



Fig. 7. Showing morbid deposit in bone, and ulcerated opening through its thickened wall.

In the class of cases now referred to, there may be no formation of pus in the bone. In this respect they differ from those previously mentioned. Independently, however, of the actual pressure of the confined fluid, the cases are strictly analogous. The essential characters of the disease may be the same, whether the original cause of local irritation arise from confined purulent fluid, or from a deposit of morbid matter in a more solid form, or from a piece of necrosed bone.

The following case, in which there was no suppuration and no external opening, presents an example of chronic irritation from necrosis, producing a very large deposit of new bone, and giving rise to some of the symptoms, although in a milder form, that were present in the cases of abscess in the tibia before related.

CASE IV. A. R., aged 24, was admitted into King's College Hospital, May 21, 1852. Twelve months previously, she had experienced much pain in the left leg. This was attended with swelling and redness extending over the whole limb. After a time, she went into Guy's Hospital, where she remained twenty-two weeks, and then returning home, continued without attendance for three months.

On admission into King's College Hospital, the two lower thirds of the left tibia were very much enlarged; the surrounding skin was red and tender upon pressure; she complained of pain in the leg, which at night was occasionally sufficiently severe to cause her to get up and walk about the room. Generally speaking, she found that the leg was easier when hanging down than at other times. There was no external opening, nor any apparent constitutional or hereditary disease to account for the symptoms. She was kept in bed for five weeks, and some internal medicines were given; but as no benefit appeared to be derived from these means, the operation of trephining the tibia was performed upon the 1st of July. It became apparent during the operation that the bone was very greatly thickened and condensed; and it was with some difficulty that the trephine was made to perforate its dense substance. When the first portion of bone was removed, the irregular rough surface of some dead bone could be felt beneath. It became therefore evident that the case was one of necrosis. The tre-

phine, which was of small diameter, was now applied to different parts, so as to admit of a considerable portion of the newly-formed bone being removed by sawing between the openings. These would represent the corners, and the lines of the saw the sides, of an oblong. The portion of bone thus raised was half an inch thick at its thinnest part. Between it and the exposed and necrosed shell of the tibia there was no fluid whatever. A portion of the dead bone at the bottom of the wound was now removed in a similar way, and in the centre of the old bone was found a condensed and detached portion of dead cancellous structure. It is unnecessary to give any further details of this case, except to mention that, after the operation, the pain, as well as the redness of the skin of the leg, entirely subsided, and in less than two months she was sufficiently well to leave the hospital.

Strumous deposit in bone may in like manner become the source of chronic irritation and long continued pain. It is seldom, indeed, that crude tubercle is deposited in any quantity in bone, but the following case, for which I am indebted to Mr. Hewett, of St. George's Hospital, will serve to shew that when it does occur the symptoms will bear a certain resemblance to those of chronic abscess. A man was admitted into St. George's Hospital with a tumour situated at the union of the middle to the lower third of the thigh. This tumour was unyielding in its nature and not painful when handled. Fifteen months previously the patient had begun to suffer considerable pain in the bone, of a shooting character. This deprived him of rest at night. Three months afterwards the swelling made its appearance, and gradually increased in size; seven months from the time he was first attacked his health began to fail, and the pain in the thigh had, with few intermissions, been continual and of a severe character. The year following his first admission into the hospital, he was attacked with erysipelas, and died. On examining the thigh, great thickening and condensation were observed between the muscles and the bone. The periosteum, which was much thickened, presented, on its free surface, a large patch of tubercular matter, enveloped in a dense cyst. The bone itself was irregular in shape, much hypertrophied, and very hard. Its medullary cavity at this point was filled with tubercular matter, surrounded by gray semitransparent lymph. Deposits of scrofulous matter were also found in other parts.

From the examples now adduced it appears that long continued pain in bone may arise from a variety of different pathological conditions, and that the chronic irritation, which precedes the deposit of new bone, may depend, among others, upon the following local causes:—1. Upon the formation of pus within the bone. 2. Upon the deposition there of more solid material arising from the poisons of mercury, or syphilis. 3. Upon a collection of tubercular matter in bone; or 4, upon the presence of a necrosed portion of cancellous structure.

When the source of the continued irritation is thus situated within the bone itself, it seems not unreasonable to conclude that a similar plan of treatment would be available, from whatever cause that irritation may arise; and the results hitherto obtained would appear to lead to the inference that relief may be expected from an artificial opening in several classes of cases.

Wherever there is reason to suspect that pain in a bone is kept up

by the presence of some morbid or foreign matter in its interior, or by the pressure produced by a redundancy of bony deposit, it appears evident that the removal of a piece of the shell of the bone is the rational mode of treatment. An opportunity is thereby afforded at once for the escape of any confined matter, and the tension of the parts is relieved; and it appears not improbable, from the favourable effects hitherto obtained by this mode of treatment, that it may hereafter be extended to the relief of many cases of protracted and obscure affection of the osseous system.

13, Dover Street, Piccadilly, September 1852.

BIBLIOGRAPHICAL RECORD.

THE PHYSICAL DIAGNOSIS OF DISEASES OF THE ABDOMEN. By EDWARD BALLARD, M.D. Lond. pp. 276. London: 1852.

DR. BALLARD'S work is divided into three parts, the first of which treats of the METHOD AND GENERAL RESULTS OF PHYSICAL EXAMINATION; the second, of the PHYSICAL SIGNS OF THE DISEASES OF THE ABDOMEN; and the third contains an ENUMERATION OF THE MOST REMARKABLE PHYSICAL SIGNS, WITH THE DISEASES BY WHICH EACH MAY BE OCCASIONED.

It is necessary to remark, that Dr. Ballard has included in his work the Physical Diagnosis of the Diseases of the Pelvis, for reasons which appear to us to be quite satisfactory, for, as he justly observes, the viscera of the pelvis often rise up so as to occupy the cavity of the abdomen; and, on the other hand, not only are some of the healthy abdominal structures prolonged into the pelvis, but the products of diseased action gravitate into this cavity. The introduction of the Physical Diagnosis of Pregnancy, although not a disease, is also, in our opinion, quite justifiable, and the directions given for the digital examination of the pelvic organs by the vagina and rectum add very much to the interest and importance of Dr. Ballard's treatise.

Five methods of physical examination are described by Dr. Ballard, viz., INSPECTION, by which much valuable information is obtained as to the positive and relative size, and as to the situation and movements of the abdominal contents; MENSURATION, by which an accurate result is afforded in confirmation of the knowledge gained by inspection; PALPATION, by which the size, situation, consistence, and other properties of organs may be estimated; PERCUSSION, which offers results in the abdominal organs of no less value than it yields in those of the thorax; and AUSCULTATION, which although of comparatively limited application in the investigation of abdominal disease, yet in certain special circumstances, as in the determination of pregnancy and of arterial tumours, affords information of unquestionable importance.

The following extract on the mode of inspecting the abdomen is of great practical value.

"In accordance with my former remarks, inspection must take in simultaneously the abdomen and the chest. Both must of course be uncovered and exposed in a good light, the subject being protected from cold by a previous regulation of the temperature of the room. This is essential, not only for the benefit of the person examined, but because a sensation of chilliness is incompatible with that perfect rest which it is desirable that the abdominal and thoracic muscles should maintain during the period of inspection. The position of the subject may be either the erect or the recumbent.

In disease, the latter is often the only available one ; but when possible, the erect posture is often to be preferred. Whichever posture is selected, the arms should hang or lie loosely by the side ; the subject should stand on a level surface, or lie upon an elastic but moderately resistant mattress ; the carriage of the head should be unconstrained, or, if the patient be lying, it should be supported at the same angle with the trunk as it holds in the erect position. Above all, the physician must not allow the examined to take the place of the examiner ; his eyes must be kept directed to some object, either in front of him, or, if he be lying, to the ceiling. An infringement of this rule is often fatal to the accuracy of either inspection or measurement ; for, almost involuntarily, some of the muscles will be thrown into activity, or the natural movements be disturbed, when the person directs his attention to them."

In the section devoted to the Exploration of the Pelvic Organs by the introduction of the fingers into the canals of the rectum and vagina, we find that Dr. Ballard recommends the supine posture as the best for the purpose of physical diagnosis, as "the obstetric position upon the left side, adopted by some practitioners from motives of delicacy, is open to many practical objections, the most serious of which is, that the back of the finger comes in contact with the anterior part of the vaginal wall, and there is so much difficulty in turning it, that signs of disease on that side may easily escape detection." The author expresses a modified approval of Simpson's *uterine sound*, which, he thinks, is indispensable in certain cases, for arriving at a correct diagnosis. "The points which are to be ascertained by it are, the length of the uterine cavity and its direction, the mobility of the womb, and thus its attachments to other structures or organs within the simultaneous reach of the examining finger, of the finger placed within the rectum, or of the hand above the pubes. The thickness of the wall of the uterus may often thus be estimated at the spot which corresponds to the extremity of the sound. Accidents have arisen in connexion with its employment, and even metritis has been said to have been occasioned by it. I have met with none of these, however, in my own practice. It need scarcely be said that the suspicion even of pregnancy must decidedly negative its employment, and that, when used, all roughness of manipulation must be most carefully avoided."

In the Second Part of the work, the various Diseases of the Abdomen are considered, so far as they are capable of being distinguished by physical signs ; and, as we have before remarked, this portion is rendered still more interesting by its being made to include the investigation of the puerperal state, and of the diseases of the pelvic viscera. In this section, Dr. Ballard describes the displacements of the bladder and the distension of that organ ; inflammation and abscess of the pelvis, and the various displacements of the unimpregnated uterus. He then describes very carefully the physical signs of ordinary pregnancy ; and in discussing the auscultatory phenomena of this state, he attributes the murmur, formerly known as the *placental souffle*, either to the peculiarities of the uterine circulation, or to a variety of causes, among which may be considered the effect of pressure excited by the enlarged uterus upon the iliac vessels.

A chapter is devoted to the Physical Diagnosis of Extra-Uterine Pregnancy ; and although it must be admitted that the signs of this formidable complication of the puerperal state are very unsatisfactory, yet we must give credit to Dr. Ballard for having brought together, we believe for the first time, all the circumstances which may strengthen our conjectures as to the existence of such an accident.

The chapter on Fibrous Tumour of the Uterus, including Fibrous Tumour superadded to Pregnancy, reminds us of a curious case which lately happened in our own practice, and in which the diagnosis, before delivery, must have been very obscure. A single woman, aged 45, a servant, was brought into a

public institution, apparently in labour. In a short time she was delivered of a puny still-born foetus, of about six months, and the placenta was expelled soon afterwards; but on placing the hand upon the abdomen, a solid, irregular tumour was observed, which at first naturally led to the suspicion of the existence of another foetus. This suspicion, however, was soon removed, by finding that the uterine pains had ceased, and on introducing the hand into the vagina, no presentation was discoverable; the uterus was not contracted, and its cavity appeared as if bifurcated by the pressure of the hard mass pressing upon its exterior. In short, it soon became evident that there was a firm, hard, fibrous tumour pressing upon the uterus. The woman recovered from her lying-in without any bad symptom, and is now quite well, but the existence of a dense, nodulated, visible, and palpable tumour in the left iliac region, extending over the hypogastric to the right iliac region, is quite manifest. The woman was either unable or unwilling to give any account of either tumour, viz., that within and that without the uterus. Now, in a case like this, had the woman been submitted to physical examination before delivery, it is evident that her true condition must have been a matter of the utmost difficulty to determine.

The subject of Encysted Disease of the Ovary, which at present occupies very justly a large share of the attention of the profession, is very ably and fully treated by Dr. Ballard; and, as in cases where the extirpation of a diseased ovary has been proposed, it is of the utmost importance to determine the adhesion or non-adhesion of the morbid mass to the adjacent tissues, very copious diagnostic marks are enumerated; and although, as in the case of extra-uterine pregnancy, we cannot declare that the difficulties of the subject have been removed by Dr. Ballard, it is only common justice to state that they have been materially diminished. The chief points which indicate adhesion of the diseased ovary to the soft parietes of the abdomen, are enumerated by Dr. Ballard as follows:—*a.* Adhesion of the abdominal parietes is preceded by peritonitis and the effusion of lymph; and hence the first sign of its occurrence is the perception of friction phenomena. *b.* The impossibility of gathering up the abdominal wall by the fingers, or of moving it over the surface of the tumour opposite an adherent spot. *c.* The immobility of the tumour within the abdomen. *d.* The non-descent of the upper limit of the percussion dulness of the tumour during deep inspiration. *e.* A very marked lateral position of the tumour and abdominal prominence, when the former has arrived at such a size as, in most cases, to assume a central position in the abdomen. *f.* The results of examination after the performance of paracentesis. We should state that the fallacies attending all these signs taken individually are very candidly stated by Dr. Ballard.

“A seventh sign”, says Dr. B., “I mention with more distrust, notwithstanding that in different cases it deserves to be taken into consideration. I allude to the vertical position of the umbilicus, and its relative distance from the pubes and bottom of the sternum. When the distance of the umbilicus from the pubes is greatly increased relatively to its distance from the lower end of the sternum, if at the same time the size of the tumour be great, and especially if it reaches to the epigastrium, extensive, close, and firm adhesions may be expected over that part which lies below the level of the navel. The contrary state, however”, Dr. Ballard admits, “by no means indicates a freedom from adhesions.”

When ovarian dropsy is combined with ascites, the diagnosis is of course rendered obscure; but Dr. Ballard remarks, that “there may be occasionally discovered, when this combination is present, an additional sign of adhesion of the ovarian enlargement to the parietes, if the adhesion be close and over some amount of space. When pressure is strongly made with the points of the fingers upon any spot of the abdomen in ascites or simple ovarian dropsy, but a small area around the spot pressed upon undergoes depression; but when these diseases are combined, and adhesion is present in addition, pressure over the adherent spot may not only depress the spot immediately

touched, but the surface of the parietes may be drawn back with it over an extended space, corresponding with the breadth of the adhesion."

The Third Part of the work consists of a very elaborate and careful summary of the most remarkable signs of abdominal disease, ascertained by inspection, mensuration, palpation, percussion, and auscultation, with the several maladies which each sign respectively indicates. Thus, to give a specimen of this portion of the book, we find under the head *INSPECTION*, the sign, *General Abdominal Enlargement*, and then follow the different diseases indicated by this sign, a star being affixed to those diseases in which "the sign is of sufficiently frequent occurrence, and sufficiently marked, to render it diagnostically important." "* Great enlargement of liver; dilatation of gall-bladder; *enlargement of spleen; enlargement of kidney, great; dilatation of stomach, very great; *flatulent distension of intestines; *fæcal accumulation; *intestinal obstruction; inflammation of intestines; *ascites; *cysts, etc., ruptured into peritonæum; *acute peritonitis; *chronic peritonitis; tuberculous disease of mesenteric glands; cancer of peritonæum; *hydatid disease of peritonæum, extensive; *gas in peritonæum; *pregnancy," etc., etc. This portion of Dr. Ballard's treatise will be found of great practical value to the student and to the practitioner.

In conclusion, we think highly of Dr. Ballard's volume; it displays everywhere marks of diligent research, both in the fields of medical literature and of actual practice; and it is a valuable contribution to a branch of medical science which has as yet been too little cultivated.

In the general dearth of information concerning the physical signs of diseases of the abdomen, we are greatly astonished that Dr. Ballard makes no mention of the researches of Dr. C. J. B. Williams, whose *Clinical Lectures in University College*, and *Essays published in the LONDON JOURNAL OF MEDICINE*, contain an amount of original views, and of luminous description, such as might be expected to proceed from the pen of so acute an observer, and so accomplished a physician. The absence of allusion to these papers is a blemish in Dr. Ballard's work.

A LETTER TO DR. LYON PLAYFAIR, C.B., F.R.S., BEING A MEDICAL COMMENTARY ON THE RESULTS OF THE RECENT ANALYSIS OF THE BUXTON TEPID WATER, to which are prefixed a Statement of the Improvements now in progress at Buxton, and DR. PLAYFAIR'S Analytical Report. By W. H. ROBERTSON, M.D., Senior Physician to the Buxton Bath Charity. Pamphlet. pp. 20. London: 1852.

DR. ROBERTSON is favourably known to our profession by his work on gout. We have therefore set forth his title-page in full, as affording a much better insight into the *materiel* of his pamphlet, than any remarks of ours could do. It affords us at all times great pleasure to see the mineral springs of our own country investigated by British philosophers, and their virtues brought more prominently forward; and we think that British medicine would be greatly advanced, and the practice of homœopathy and its cognate quackeries materially lessened, if the cures effected at our mineral springs were brought more frequently before the profession. The Duke of Devonshire having employed Dr. Playfair to analyse the Buxton waters, in connexion with the extensive alterations now in progress, we are now presented with his analysis, with remarks by Dr. Robertson, whose practical experience at Buxton adds value to his observations. Yet, while we admit that "the extensive range of hot baths and warm swimming baths, now in course of erection, where baths may be obtained of the Buxton tepid waters, heated to any higher degree of temperature than the natural heat of the water, which is 82 degrees, and where douches of all kinds, and of any required temperature, adapted to any purposes which douches can subserve", will be of great advantage to the *inhabitants* of Buxton, we very much doubt whether

they will much conduce to the cure of the *invalids* resorting thither. Having had some experience in the administration of mineral waters, we are only speaking from experience when we say, that the less they are interfered with the better. Dr. Playfair uses the following words: "Judging from the analysis and proportion of the gases, it is assumed that, *at the moment of issue*, the water is charged with 206 cubic inches of nitrogen and 15.66 cubic inches of carbonic acid. . . . From a consideration of the previous analysis, I am inclined to ascribe the medicinal effects of the water almost entirely to the gaseous constituents; the water, deprived of its gases, has the composition of an ordinary spring water, with the exception of the fluorine and phosphoric acid, both of which are present in mere traces, and it is therefore difficult to conceive that they can have any medicinal effect when the water is used for baths. The gases are, however, nearly of the same composition as the Thermal spring at Bath; and there is no reason to doubt that dissolved carbonic acid and nitrogen may exert important physiological effects." What then, we ask, will be the effect of heating this water at 82° to the temperature required for the ordinary warm bath—will not these important *uncombined* gases be dissipated in the process? And this question we ask, because Dr. Robertson observes, "that an important amount of benefit might be predicated for a mineral water so highly charged with nitrogen gas as the Buxton tepid water is known to be"; and we should strongly urge upon his consideration, whether an important and useful natural remedial agent may not be seriously injured by attempts to improve it. If we were obliged again to go to Buxton for our health, we would prefer the water at the natural temperature, or resort to the warmer Thermal spring at Bath: and, in concluding this notice, we would point out an error in reference to the latter into which, we have no doubt, Dr. Robertson has unintentionally fallen. At page 17, Dr. Robertson says, "it should moreover be borne in mind, that in the instance of the Bath water, the water issues from the earth at so high a temperature as to be unfit for immediate use; such water has to be cooled considerably before it can be used as a bath or taken into the stomach." This is quite wrong. At the Bath pump-rooms, the water is drank immediately it is drawn, and persons bathe still in the large King's Bath—in the centre of which the water rises at a temperature of 116°, and which, giving out three hogsheads a minute, and containing more than 314 tons of the mineral water, is still employed in the same way that it has been for centuries past, and with equally beneficial results.

DICTIONARY OF DOMESTIC MEDICINE AND HOUSEHOLD SURGERY. By SPENCER THOMSON, M.D. Parts I-IX. London: 1852.

DR. SPENCER THOMSON is favourably known to the profession by papers which he has contributed to the Medical Journals, and by his excellent treatise on the Use and Abuse of Alcoholic Drinks, which we reviewed in our volume for 1850, p. 1058. We had grave misgivings when we saw the present work advertised as a "NEW MEDICAL DICTIONARY FOR THE PEOPLE, to be completed in twelve monthly parts, price sixpence each." Nine of these parts are now before the world, and we feel entitled to express our opinions. The Dictionary is avowedly written for the public, and not for the profession; and as such it must be judged.

We fully participate in the general dislike to pseudo-medical books—those flimsy compilations, which, under a thin disguise of being designed for the instruction of the profession, are merely their author's advertisements for practice—sometimes the traps of charlatans. We also dislike the majority of popular books on medicine, because they communicate little available knowledge, and exceedingly tempt ignorant people to trifle with disease when it is in a curable stage, and to delay calling in skilled advice till the case has become dangerous and complicated. The title of Dr.

Thomson's Dictionary, in spite of his previous well-earned reputation, led us to fear that he was only going to add one more volume to the already long catalogue of objectionable works of this latter class ; but we feel bound to say that our fears have not been realised, and that we find he has not only produced the best and safest book on domestic medicine and household surgery which has yet appeared, but has really, at the same time, done service to his profession. A great amount of useful matter is communicated in simple and classical language ; and nothing is said, which is calculated to make the reader presume too much on his modicum of information, or fancy that the perusal of a popular book can supersede a scientific medical education, or enlarged clinical experience. The dissuasives from quackery are frequent, forcible, and well placed.

In justification of these remarks, we make three extracts, viz., a paragraph from the author's preface to, or rather DEFENCE of, his book,—the article MEDICAL ADVICE,—and the article COW-POX.

AUTHOR'S DEFENCE. " We come to a point more liable to cavil—the actual treatment of disease, properly so called, by the unprofessional, and how far it is well to afford information, which may tempt the rash to use that which education only can safely employ. It may be trite, but it is true, that in order to treat a disease safely, and with benefit, we must learn its nature. Now, when it is remembered, how the nicest judgment that observation and experience can form, the most patient attention, aided by practised ear and eye, by microscope and test-tube, are frequently necessary, to enable the conscientious physician to judge of his case before he can apply the remedy, it is evident how great must be the responsibility of those who, in rashness or ignorance, venture upon the treatment of serious disease, either in their own persons or in those of others ; incapable of judging of its nature, still less capable are they of selecting the appropriate treatment. There is, however, a vast difference between the management of real disease and of ordinary ailment—between endeavouring to strike at the root, or only to relieve the symptoms. Any unprofessional man, or woman either, in this kingdom, who, with all facility that there is for procuring skilled advice, ventures to take the medical management of a case of real illness, acts most unwarrantably ; but there are numbers of lesser ailments, many of the more painful incidents and symptoms, simply and easily removable by means which all may employ, and with which it is most important that all should be acquainted ; which the parent may use to the child, or the pastor recommend to his parishioners, without fear.

" One step further. If danger may result from rash treatment, none can arise from a general acquaintance with the most prominent symptoms which herald the approach of dangerous sickness ; these, I think, should be made known, whilst all remarks upon the management, whether limited as for use in this country, or more extended for the sake of the dweller in remote or unsettled districts, I trust so to guard, as to make them safe and useful guides.

" I know well what is said by a few, about injuring the medical profession, by making the public their own doctors. Nothing will be so likely to make 'long cases' for the public to attempt any such folly ; but people of moderate means—who, as far as medical attendance is concerned, are worse off than the pauper—will not call in and fee their medical adviser for every slight matter, and, in the absence of a little knowledge, *will* have recourse to the prescribing druggist, or to the patent quackery which flourishes upon ignorance, and upon the mystery with which some would invest their calling. And not patent quackery alone, but professional quackery also, is less likely to find footing under the roof of the intelligent man, who, to common sense and judgment, adds a little knowledge of the whys and wherefores of the treatment of himself and family. Against that knowledge which might aid a sufferer from accident, or in the emergency of sudden illness, no humane man could offer or receive an objection.

"To resume. The information which it is proposed to offer in this Dictionary may be classed as Anatomical and Physiological, Sanitary or Hygienic, the Treatment of Accident and Emergency, and the Management of Illness. In some respects, perhaps, the adoption of this classification might be advantageous, but as a means of ready reference, the alphabetical arrangement of subjects will, it is thought, be found more convenient."

MEDICAL ADVICE. "When a medical man is consulted, it is a tacit acknowledgment of confidence; that confidence should be implicit, or placed elsewhere. In the first place, care should be taken that the necessary directions given are fully and accurately understood, being so, they should be as fully and accurately followed out, unless some evident change in the condition of the patient, or in circumstances which the prescriber could not foresee, renders a departure from them necessary; but of this he should have as early notice as possible. There is no greater folly than to call in a medical man, and then, either from wilfulness or weakness of purpose, to controvert or neglect his prescribed rules; it is only equalled by that which conceals or deceives in the particulars of a case, and looks for benefit. It is too commonly the case, in illness, that officious persons are continually offering their counsel and opinions, disturbing the mind of the patient or of the friends, and perhaps undermining the trust reposed in the attendant practitioner; if it is reflected for one moment, how worthless such counsel and opinions must be, they would be less attended to than they are. Again, if proper confidence is felt in the judgment of the medical attendant, his requirements should be submitted to without remonstrance or grumbling. When doubt or uneasiness respecting the progress or prospects of a case intrude themselves upon the mind of those *most interested*, and a second opinion is desired, the matter should be openly, at once, stated to the ordinary attendant, and his views and wishes heard; but never should another be called in till this has been done; still less, even if a medical man can be found to demean himself so far, should a clandestine opinion be taken. Lastly, in sending for medical assistance, especially in country districts, as full an account of the symptoms of illness, or accident, as possible, should be transmitted by written note. The precaution must save time; it may save life."

"Cow-Pox is the disease affecting the cow, which, transferred to the human subject, confers in the majority of cases immunity from attacks of small-pox, and in those in which it does not give complete protection, renders the attack of that usually virulent disease comparatively mild.

"Cow-pox shews itself upon the teats of the cow in the form of blueish or livid-looking vesicles, surrounded by a ring of inflammation, whilst at the same time, the animals are feverish, and the milk diminished. At first the vesicles contain clear fluid, but ultimately become pustular, or filled with matter. The cow is liable to other forms of pustular disease affecting the teats, but they do not present the same characters, nor follow the same course as the genuine cow-pox: which is, moreover, a constitutional disease, sometimes extremely severe, and even fatal to the animals.

"The name of Dr. Jenner, who discovered this inestimable boon, and introduced the practice of vaccination—as the inoculation of cow-pox matter is termed—must be known to all. His attention was first directed to the subject from the known circumstance, that when the cow-pox had prevailed among the cows of a particular district or farm, many of those connected with the management of the animals, likewise became affected with the disease, and therefrom a certain number were protected against small-pox. The value of this circumstance seemed at first to be materially impaired by the fact, that the protection was neither universal nor certain, until the investigations of Dr. Jenner made it clear, that the protection or non-protection depended upon the stage which the disease had attained in the animal at the time it was contracted by the human attendant; that is to say, if the vaccine disease advanced into the stage of maturation, or that in

which the contents of the vesicle, which forms its outward manifestation, had become converted from a limpid-looking fluid, into matter, although sores were produced upon the hands of the milkers, that certain protection was not afforded which ensued when the sores were produced by the fluid from the vesicle in an earlier stage.

"Following up his investigations, Dr. Jenner clearly demonstrated, that when the human subject was properly inoculated with virus taken from the cow-pox vesicle, at the proper stage of the progress, and when in consequence of that inoculation the disease was regularly produced, and went through its proper stages, both locally and constitutionally, the individual thus affected was thenceforth all but certainly protected from the contagion of small-pox. These circumstances call for particular attention at the present time, when the value of vaccination and its protective power is becoming much disputed. It is unquestionable, that within the last few years, small-pox has prevailed much more extensively, and been more fatal, than was the case some time previously; also, that many persons who had been vaccinated have taken the disease, and that a certain proportion of that number have died from it. As regards the complete protection of every individual who is vaccinated, against the contagion of small-pox, it could never be expected—for the simple reason, that one attack of small-pox, is not in every case a security that the disease may not be contracted a second time; for, although, in the eruptive fevers generally, as well as in small-pox, the general rule is, one attack in a lifetime, it by no means invariably holds good, and it is unreasonable to look for more from cow-pox than we find in the analogous cases already alluded to. Admitting, then, that certain exceptional instances may fairly be expected in which the most perfectly developed cow-pox will not protect against small-pox even in its most fatal form, it becomes a question how far its protection really extends, and whether from some cause or other, its influence has not become diminished since the early days of its introduction. Many are inclined to this opinion, on account of the recent epidemics of small-pox which have prevailed in various districts; but it will require much stronger evidence of the fact than has ever yet been produced, to justify, as some would have it, the abandonment of vaccination, and the recurrence to inoculation for small-pox. One thing is certain, that Dr. Jenner, strongly alive to the circumstance that milkers inoculated with the genuine cow-pox were not protected by it if the disease had passed a certain stage, both practised, and insisted upon the practice, as a condition necessary for success, that the same law should be had regard to in the transference of the matter from one human subject to another. It must be asked, has this precaution been observed in the cases of those who have proved to be insufficiently protected. It may, or may not, have been the case; but there is some reason to expect, that among the thousands and millions who have undergone vaccination, a certain proportion have thus been lulled by the semblance of protection which was no protection at all. Again, it is an ascertained fact, that the presence of other disorders materially interferes with the regular progress and perfect development of cow-pox; and thus there is introduced another element of fallacy and of failure, and, lastly, are there not those who have been vaccinated, but in whom the disease, owing to constitutional peculiarity, or insufficient performance of the vaccinating process, has either been irregularly developed or not at all, but who nevertheless rank among the vaccinated? With all these sources of failure, it cannot be matter of surprise, that a proceeding to which is confided the protection of millions against so active an enemy as small-pox, should in a certain proportion of instances fail, still less so, when it is reflected, that amid the various hands to which its performance is entrusted, some will prove careless, nay, that it is not unfrequently performed by those who are ignorant of the distinctive characters of the true cow-pox disease. This is not said in condemnation of the performance of vaccination by non-profes-

sional persons, under peculiar circumstances, for in many cases it has proved and must prove, of the most essential benefit, but still they cannot be expected to distinguish accurately an irregular development from one which is the reverse.

"The most interesting recent fact connected with the history of vaccination, and one which throws light upon its constitutional influence, has been elicited by the experiments of Mr. Ceely, of Aylesbury, which prove the identity of the two diseases, cow-pox and small-pox, and that their apparent difference depends upon their modification by the animal constitution; in other words, that by taking the matter from a patient labouring under small-pox, and therewith inoculating a cow, the genuine cow-pox was produced, and thus, that by its passage through the constitution of the cow, the former virulent disease is deprived of its virulent and fatal character, and converted into a mild and perfectly safe disorder, and equally important, *deprived of its contagious property*, otherwise than as it can be communicated from one person to another by direct introduction of its tangible virus into the blood. Connected with this fact, is the occurrence of the grease on the heels of horses, which was at one time considered identical with cow-pox, but must now be considered as the same virus, but modified by the equine constitution.

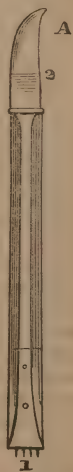
"The next point is one intimately connected with the prejudices of the public, and especially of the poor—the possibility of other diseases, or a tendency to them, being introduced along with the cow-pox virus, taken from persons who had either the dreaded disease, or a tendency thereto. The idea is not without *apparent* foundation, but the state of the case is one which most parents are unwilling to admit. Any medical man who has had much to do with vaccination, and who has watched its effects, must have known cases, in which children previously apparently healthy, have, after passing through cow-pox, become liable to cutaneous eruptions, discharges from the ears or eyes, and even abscess; some of these are of course adventitious circumstances, but they occur too often, and too closely following vaccination, to be entirely so; moreover, they are precisely analogous to what is witnessed every day of the effect of eruptive febrile diseases, such as measles and scarlatina, upon children of weakly and scrofulous constitution. That the virus itself introduces other than its own specific disease is not to be believed; but that the peculiar disturbance it occasions in the constitution, stirs up as it were, the latent tendencies to disease above-named, cannot be doubted. It is proper that the public should be rightly informed upon this point, for it is one on which much misconception prevails, and it is the chief ground of prejudice and even of resistance to vaccination, especially among the poor. The medical man is constantly met with objections, on the score of the liability to the introduction of other diseases along with the cow-pox, and when a reluctant consent is yielded, it is always guarded with strict injunctions as to the selection of the matter from a 'healthy child', each person considering their own offspring as unexceptionable. It certainly is not a pleasant admission for parents, either to themselves or to others, that their children have bad or scrofulous constitutions; but the fact still stands, that vaccination, as well as the other eruptive fevers, may in them give the first impetus to latent disease. A parent may decide not to subject a child to the chance, but in doing so, it is exposed to the much greater hazard of an attack of small-pox, in the first place as a disease, and in the second as an excitement of other diseases, still more powerful than vaccination. Further, however, as a proper concession to the opinions of the public, a medical man ought to take the vaccine virus from perfectly healthy children only; and it may be said, if we find such a powerful modification of the constitutional effects of the disease by its passage through the body of the cow, there may be some influence, to us unappreciable, exerted in the passage through the varied constitutions of mankind; at all events, the simple

supposition is sufficient to dictate care in the selection of those from whom the vaccination lymph is taken.

"The best period of life for the performance of vaccination, is infancy, between the third and fifth months, before the constitution becomes disturbed by the process of teething; it may, however, be performed at any time, from immediately after birth, should circumstances, such as exposure to the contagion of small-pox, render it advisable, and of course at any period of after life. A child ought to be free from illness or disorder at the time of vaccination; any tendency to fever, to diarrhoea, etc., etc., or any eruption, should be removed before the process is undergone. It is always preferable to vaccinate from the fresh arm, if possible; when this cannot be done, vaccine virus or lymph is used, which has been preserved for the purpose, either dried on ivory points, or between two small squares of glass, or liquid, in small glass tubes. In these cases it ought to be as fresh as possible, otherwise it is liable to fail; but if well preserved from the air by means of oiled silk, or metallic leaf wrapping, and kept in as cool a place as possible, it will keep its efficiency far longer, and is thus sent or taken to warm climates. The hermetically sealed tubes are said to be peculiarly well adapted for the above purposes, and sugar has also been used as a medium for preserving the lymph for a lengthened period. The scabs, too, dried, and kept from the air, are said to be capable of producing the disease after keeping; they require to be rubbed down with a little water when used.

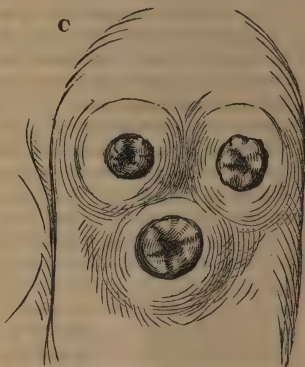
"The part of the body on which vaccination is usually performed, is the arm, about half-way between the shoulder and elbow; a point not of very great importance in males, but to be attended to in females, who may wear low dresses or short sleeves, and who will not thank the doctor for a scar upon a visible part. Some vaccinate upon both arms, others consider three, or even two, well-developed vesicles upon one arm sufficient. In choosing the arm in a child, it should be done with reference to the arm on which the nurse or mother habitually nurses it; attention to this simple point, may save the child some uneasiness, or even from failure of the entire process, by the vesicles being rubbed or broken.

"All that is requisite for the process of vaccination, is the contact of the virus which the surface of the true skin, which of course is done by piercing through the upper or scarf skin; this may be effected without pain sufficient to make an infant cry, by a series of scratches crossing one another, continued till the slightest exudation of coloured serum takes place. A small quantity of the vaccine is now to be placed upon the abraded spot, and the thing is done. If the lymph has been dried, it is advisable to rub it into the exuded serum with the point of the instrument used. The points of insertion should be placed about three-quarters of an inch asunder. Of course anything which will abrade the skin in the manner described alone, and apply the virus, may be used as a vaccinating instrument; a large needle will do if nothing better is at hand, but a lancet, *not over sharp*, is perfectly convenient for the purpose, or the vaccinator of Dr. Graham Weir (Fig. A.) which is furnished with a series of metallic points (1) at one end of the instrument, for the abrasion of the cuticle, and a small knife (2) at the other, for the collection and application of the virus. When ivory 'points' (Fig. B.) are used to vaccinate from, the charged extremity (1) may either be well rubbed on the scratched surface of the



skin, or the virus may be scraped off and applied with the lancet, or a deeper incision being made with the lancet in place of the scratches, the extremity of the point is to be pressed into it for twelve or fifteen seconds. These directions are material, for vaccine virus is always sent out from the 'National Vaccine Establishment' upon ivory points.

"The course of the vaccine disease is generally a regular one. About the third day after the insertion of the lymph, the spots appear slightly elevated and inflamed, like small pimples; on the fifth, each has a perceptible vesicle upon it, which continues enlarging, until, about the eighth day, it assumes its perfectly developed characteristic form (Fig. C), that of a circular vesicle with depression in the centre. At this period it contains a transparent 'lymph', and it is surrounded by a perceptible blush, or 'areola', the vesicle itself looking pearly or yellowish. By the tenth day, the lymph has become changed into matter, and the vesicle looks more opaque and darker; the areola of inflammation has much extended, the affected skin feels hot and hard, and is sometimes covered with minute blisters. After the eleventh day, the areola begins to fade, the vesicle darkens still more in colour, becomes drier and shrivelled, and finally assumes the form of a dark chocolate-brown scab, which separates somewhere about the twenty-first day, leaving the skin healed, but permanently marked with the impression of the vesicle, and with a number of little pits. Occasionally the process does not go on quite so regularly; four, five, or six days may elapse before the points of insertion inflame; and it may be the tenth or eleventh before the vesicle is fully formed. On the other hand, it may advance so quickly as to be well formed by the seventh day. These differences are chiefly due to constitution. In a weakly child the process is apt to be delayed, and *vice versa*. The constitutional symptoms also vary, but generally are palpable about the eighth day; the child is fretful and feverish, and continues so, more or less, for three or four days. Without the evidence of constitutional disturbance, the protection cannot be calculated on as complete.



"The management during the progress of the vaccine disease is very simple, the principle being the protection of the vesicles from injury, either by rubbing or by the dress. A piece of soft linen should be placed upon them on the fifth day. If the inflammation of the arm is severe, as sometimes happens, a cold poultice of bread and water should be applied. A little goulard-water will allay the after irritation, if troublesome. A dose of some simple aperient, castor-oil or senna, should be given on the tenth or eleventh day, and repeated once or twice afterwards. Care should be taken that the scabs are not forcibly detached, otherwise a sore, sometimes difficult to heal, may be the consequence. Sometimes this will happen in spite of all precaution, in children of a scrofulous habit, and a troublesome ulcer form. It may be dressed with cold cream, or simple water dressing, or may require a weak astringent lotion, such as two grains of the sulphate of zinc to the ounce of water.

"Occasionally, an eruption of vaccine vesicles comes out all over the body; it is not a circumstance of importance, and makes no difference in the treatment.

"When matter is taken from the cow-pox vesicle for the purpose of propagating the affection, it is requisite to puncture the vesicle all round; for, in consequence of its being divided into separate cells by partitions radiating from the centre—such as we see in the section of an orange—if one cell only is opened, the amount of lymph which exudes is comparatively small. The ivory points may be simply dipped in the exuded lymph and dried; or the square of glass, if glass is used, gently applied to the vesicle. The 'points'.

when dry, should be enveloped in some material which will exclude the air, such as gold-beater's leaf, or they may be kept in a bottle. When glass is used, the two squares should be put together before the lymph is *quite* dry, and if likely to be kept long before using, they also should be wrapped up from the air; if to be used at once, paper is sufficient.

"The question of re-vaccination is much mooted. If the process has been properly passed through in early life, there can be no possible necessity for its repetition before puberty; but after that period, during which the constitution undergoes considerable change, it is an expedient precautionary measure which ought to be resorted to. The process of a second vaccination is very different from that of a first, being irregular in every way, sometimes causing the slightest degree of irritation, at other times giving rise to rapid, almost erysipelatous inflammation of the arm. When it takes effect, it usually occasions slight feverish symptoms, loss of appetite, and headache for a day or two. A dose or two of aperient medicine should be taken when these symptoms are passing away. The virus of a second vaccination is quite inefficient, and should never be taken."

AN ESSAY ON THE CAUSES WHICH INDUCE THE PREMATURE DECAY OF THE TEETH IN CIVILIZED COMMUNITIES. By J. L. LEVISON, DD.S. Pamphlet, pp. 54. Brighton: 1852.

This is a very interesting and useful essay. The author describes the structure of the teeth in a simple and popular manner. He then enters on the subject of the decay of the teeth, and traces such decay to two sets of causes. The one "external", the other "internal, moral, or sympathetic". Among the external causes are named accidents, the use of powders, which mechanically wear away the enamel of the teeth, such as charcoal, and pumice; the use of substances which chemically affect the teeth, the accumulation of salivary sediments, and the decomposition of animal food wedged between the teeth. The internal causes, to which he alludes, and which are more or less indirect in their mode of action, are dyspepsia, and other bodily affections, brought on by our own absurd modes of living. He mentions also, very properly, the injurious effects of mercurial medicines on the teeth. In concluding his essay, MR. LEVISON intimates, that he thinks "that a case has been sustained to prove that the loss of teeth is the sole result of infringements of the laws of our organization." We quite agree with the writer on this point, and we recommend his essay to the perusal of all readers who are not unwilling to see criticised many of the fashionable follies of the present day.

EDWARD JENNER'S MONUMENT. By CHEVALIER JOHN DE CARRO, M.D., etc., etc., etc. 12mo. pp. 20. Carlsbad: 1852.

This is an appeal on behalf of the subscription for erecting, in bronze, Calder Marshall's statue of the immortal Jenner, to which allusion has been repeatedly made in this Journal. DR. DE CARRO, though an old man, writes with all the enthusiasm of youth. The following extract is rather a long one; but from its quaint earnestness, as well as from the information which it contains, many we think will peruse it with interest.

"Although nobody hitherto has ever attempted to contest Jenner's immense claims to universal gratitude, many people wonder that Albion's rich children should seek out of their three kingdoms and their vast colonies, contributions to such an insignificant sum as £4000 St., which the monument will cost.

"As to us personally, we see nothing else in this *appeal* to all civilised nations, but a noble courtesy, without any other view than that of associat-

ing foreigners in the honour of erecting a monument to their immortal compatriot.

"Some people also say: 'If the English apply to us to contribute to Jenner's monument, why did they not share with us the expense of the monuments which have been erected to Gutenberg, to Luther, to Gœthe and Schiller, to Haydn, Mozart, and Beethoven?' Having never been put to the test, nobody can say what the English would have done if they had.

"However great and worthy of such honours all those men are, none of them has been so universally useful and done so much undeniable good to mankind, as Jenner. Gutenberg's invention, although everywhere adopted and appreciated, has propagated and propagates still, whenever the laws do not prevent it, the most pernicious and licentious writings, as well as the most salutary and the most instructive. Already preceded by John Huss and Jerome of Prague (be it observed here that the author of these lines is not a Roman Catholic), has not Luther, by the Reformation, caused as much blood to be shed as a glorious conqueror? The two poets and the three great musical composers, are men of such genius that their own countrymen cannot enough honour their memory; but how very few English are sufficiently familiarised with the German language to read Gœthe and Schiller, and, when travelling in Germany, to be able to enjoy the representation of their dramatic masterpieces? Except the English who inhabit the principal cities of Great Britain, very few indeed have any chance of hearing the divine harmonies of Haydn, Mozart, and Beethoven, which in Germany are performed at every concert, in public walks, tables-d'hôte, and estaminets.

"Quite different is Jenner's glory! His discovery presents an universal blessing, without any mixture of evil.

"The Jennerian Committee shines not only in the celebrity and the high rank of many of its members, among whom are two foreign ambassadors, and three British peers, but in the extreme varieties of the countries to which they belong in the Old and New World. The last list, printed in February last, contains already 165 members, amongst whom 54 do not at all belong to Great Britain. In Europe, we find Petersburg, Berlin, Stockholm, Copenhagen, Paris, Brussels, Madrid, Lisbon, Turin, Pisa, Pavia, Nice, Florence, Utrecht, Tübingen, Kissingen, Ehrenbreitstein, Carlsbad, Marienbad, Franzensbad, Bonn, Vienna, Göttingen, Zürich, Berne, Geneva, Frankfurt a. M. In Asia: Calcutta and Madras; in America: Rio de Janeiro, Boston, New York, and Philadelphia. This list is daily and rapidly increasing.

"Three great powers are in like manner represented in the Jennerian Committee. Dr. Michel de Markus, privy-councillor, and president of medical affairs in the ministry of the Interior, has taken on himself to raise subscriptions through the whole Russian empire: Professor John Müller, of Berlin, in the kingdom of Prussia; and the Committee have honoured me with the same mission for the Austrian dominions.

"Many of our influential personages have, I am sorry to say, shewn no inclination to support my exertions, on the ground that many of our institutions are in a state requiring assistance, and that, as long as this is the case, subscriptions for foreign purposes ought not to be encouraged.

"A tax, which nobody is able to avoid, may be onerous; but an offer of subscription, which every one is free to decline without offence, and for which the widow's mite is accepted with the same gratitude as ducats, may, we think, be ventured at all times.

"As to those who, dissatisfied with the London Cabinet, make it a pretext for declining subscriptions, we confess our incapacity to understand what past, present, and future political systems may have in common with the Gloucester cows, who have been kind enough to supply us with an admirable preservative against the dreadful small-pox, and with God's mercy, who sent us the wonderful discoverer of this inestimable virtue.

"Among the various proofs of zeal shewn in different parts of the world

in Jenner's monument, we mention with pleasure the £30 St. subscribed in Philadelphia by the students of Jefferson College. It appears in general that the New World will not remain behind the old one. In New York 800 persons, paying each a dollar (four dollars make a pound sterling), have collected 200 pounds; and Boston has also subscribed the same sum for the Jennerian Committee. Such a vast country as the United States, forced to increase its populations with European and other emigrants, white and black men, such a country very likely understands better than any other, the advantage of having nothing more to fear from the former ravages of small-pox. What would they not give, if God were to send them a second Jenner, with a sure antidote for cholera!

"To the account given in these pages of what is done now to honour Edward Jenner's memory, I shall add a few anecdotes, only known to me, proving the respect shown to him as soon as he had revealed his great discovery.

"Under the first republic, as well as under the empire, some English were arrested in France, without any other culpability than their British nationality. Three or four of them, wisely thinking that Jenner was the only man on earth to whom the enemy himself could refuse nothing, forthwith wrote to him and begged that he would petition for their freedom. His request never was rejected. Josephine herself having asked the same favour of Napoleon for an English prisoner, the emperor hesitated a few instants; but he very soon exclaimed; 'Ah! what can I refuse to such a man?'

"The first account I read of Jenner's discovery, was in the *Bibliothèque Britannique*, afterwards *Bibliothèque Universelle* of Geneva. I was so much struck with the greatness of the discovery, than I ran instantly to the British Legation (then under Sir Morton Eden, later Lord Henley), to beg some of the gentlemen of his chancery to procure me, as soon as possible, Jenner's book and some of the vaccine matter, which had lately been tried in one of the London hospitals. Mr. Sebright, chaplain to the Legation, did promptly (in the spring of 1799) what I wished, and I received, by his agency, what I wanted; Jenner's work and vaccine matter.

"The same reverend gentleman, Mr. Sebright, passing through France, was also arrested, merely because he was an Englishman. Knowing what had been done, by Jenner's intervention, for a noble lord, he took it into his head, to avail himself of his having enabled me to introduce vaccination on the European continent. He sent me his petition to Vienna; I signed it as a certificate, in the best terms I could; but without any success.

"The French began rather late to adopt vaccination, for which they were not indebted to any medical man, but to a philanthropic nobleman, the well-known Duke of Liancourt, with whom I had a very interesting correspondence. Under the Consulate and the beginning Empire, his son, Count Alexandre de la Rochefoucault, ambassador to the court of Vienna, treated me as his father's friend, and was with me truly *aux petits soins*.

"Count Francis-Hugh de Salm-Reifferscheid, of Raiz, in Moravia, who was a good friend of mine, called on me one day, and said: 'Dear de Carro, I am willing to introduce vaccination on our estates; but first of all, I must make the personal acquaintance of your illustrious master. Be so kind as to give me a few lines to him. I set off for England, but I will leave you a young physician, of whom you must make a good vaccinator. On my return I will give him plenty to do.' All this took place. Count Salm had the principal share in the introduction of vaccination in Moravia, and wrote a small tract called, *Was sind die Kuhpocken?* (What is the cow-pox?)

"A rich landowner, in the environs of Vienna, whose name I have forgotten, invited me to Mödling, where he had assembled about a hundred children, from his own estate and from other places, all which I vaccinated. It was a charming *fête champêtre*, the most fervent toasts were drank in honour of Jenner, and the Vienna newspapers gave flowery account of this *vaccinade*.

"The high mission of Jenner is fulfilled. If now and then we see varicoid eruptions, they are mild and of a shorter course. Small-pox can no longer be called a plague: it spoils nobody's face. Nothing gives to this antidote a more inestimable value than the circumstance of its unalterability by time, if it is used according to the well established rules. The present pustules, produced by vaccination, are as characteristic as those which Jenner drew from the Gloucester cows. That virtue is so much more precious, that nothing is less frequent than to meet cowpox on cows, and grease on a horse's heel."

ALMANACH DE CARLSBAD; OU MÉLANGES MÉDICAUX, SCIENTIFIQUES ET LITTÉRAIRES, RELATIFS A SES THERMES, ET AU PAYS. Par le CHEVALIER JEAN DE CARRO, docteur en médecine des facultés d'Edimbourg, de Vienne et de Prague, etc., etc., 22^e Année. pp. 239. Carlsbad, 1852.

This almanack is a curious compound; and the term *mélange*, adopted by the author, is accurately descriptive. The first twenty-two pages contain a pompous list of the great or notable people who were at Carlsbad in 1851. "The season of 1851 at Carlsbad" and the "Jenner monument", occupy a good deal of space; but the pages, which have most attracted our attention, are those devoted to a gossiping autobiographical fragment, which is entitled "Mes quatre époques:—Geneve, Edimbourg, Vienne, et Carlsbad."

DR. DE CARRO was born at Geneva in 1770, and is therefore 82 years of age. His reminiscences of Edinburgh, after so long a lapse of time, seem odd enough, and show us that times have indeed changed in the Scottish capital within the last sixty years. The medical student of 1853 may, we hope, still be able to enjoy haggis, toddy, and hotch potch, but he will be indeed a conjuror if he find the *élite* ladies of the Edinburgh ball rooms dwelling near the "lands"¹ of Bristo Street, or the professors finishing off their examinations for the degree in medicine with a jolly supper. On the 24th of June, 1793, De Carro passed the board of University medical examiners. He says: "J'eus le bonheur de satisfaire complètement mes examinateurs. Cet examen fut suivi d'un souper fort gai, auquel je fus convié par le docteur Gregory, avec MM. les professeurs."

We quote one or two passages, because they carry us back with the assistance of a living guide to contemplate a picture of student life and of social intercourse in Edinburgh sixty years ago, when London had no medical schools of repute, and when in truth Edinburgh was the great centre of medical learning, and the chief nursery of illustrious physicians.

"Edinburgh was then the favourite university of the Genevans; *first*, on account of its merited celebrity; *secondly*, from religious sympathies; and, *thirdly*, because it was important for a Genevan physician to be acquainted with the English language. My countrymen, who found Edinburgh too expensive, went to Montpellier or Leyden.

"When I arrived in London, I found so many French and Swiss who only spoke French, that I very soon felt the absolute necessity of going elsewhere to improve my English. I was advised to go to St. Ozyth in Essex, where not a soul spoke French, and where other Genevans had already been for the same object which I had in view. I did not take regular lessons, but I chatted with my host (a respectable schoolmaster), with his family, and with his thirty pupils. I joined in the game of *reversis*,² and every evening, by invitation, I supped with the village *Æsculapius*, who was at once physician, surgeon, and apothecary. He had a passion for this game, which was then in vogue in France and Switzerland, and which he had learned from

¹ Lofty houses inhabited by various families, and having a common stair, are still called "lands" in Edinburgh.

² A game at cards:—"Beggar my neighbour"?

my Genevan predecessors at St. Ozyth. Since that period, I have not touched cards.

"I hunted hares in the large turnip fields with male inhabitants, and with female inhabitants I sometimes went to the theatre at Colchester. *Honi soit que mal y pense!* One Sunday morning I scandalised my hosts by cleaning my gun in their garden."

De Carro made rapid progress in the language, and when he went to Edinburgh he was able to understand it. He lodged in an excellent boarding-house along with some English and Anglo-American medical students. One of these gentlemen was Dr. Richard Fowler, of Salisbury, now 86 years of age. A glimpse at the interior of this "*excellent pensionnat*" is worth quoting, as it stands in the original.

"Arrivé à Edimbourg, vers la fin de 1790, je trouvai le déjeuner écossais digne de son renom, composé d'excellent thé, de tartines, de *toasts* au beurre frais ou salé, de poisson sec, d'œufs à la coque, de gâteaux, de miel et d'autres friandises. La table était invariablement bonne, comme elle peut l'être et doit l'être, avec les viandes les plus belles, rôties à la broche ou sur le gril; avec une variété de poissons de mer, des harengs frais, des homards, des huitres et autres coquillages, de bons légumes, de *puddings*, sans parler des *pigeon-pies*, des *veal-pies*, et de quelques plats spécialement nationaux, tels que le *hotch-potch*, les *têtes de mouton* et le *hagis*; le tout terminé par du fromage anglais. La bière était très-bonne. Je finissais le repas par un verre de *punch* sans citron (*toddy*). Tout cela se passait chez Mr. Angus MacPherson et ses trois demoiselles, d'âge mûr, l'honnêteté personnifiée. C'était dans *Bristo Street, Alexander's Land*, aussi voisine de l'université que de *George square*, dont la meilleure société fréquentait les bals publics."

Whisky—*la rosée de la montagne*—is described, and the remark is made that "on ne pouvait guère accepter une invitation à dîner sans risque de transgresser les règles de la tempérance". This is correctly applied to 1790, but it has long ceased to be applicable to Edinburgh dinner parties.

We conclude with a translation of the author's account of his examination by the medical faculty.

"On the 24th of June, 1793, I received my degree of doctor in medicine. By a kind delicacy, the rigorous examination was not public. The professors alone were privy to what transpired, so that, if through timidity or inexperience in talking Latin, the candidate failed to give satisfaction, the rejection remained a secret, and was not injurious to his future fame if he got through at a second trial. The professor at whose house the examination was to take place, came in person to invite the candidate. My examination took place at the house of Professor James Gregory, the author of the classical *Conspectus Medicinæ Theoreticæ*. Before beginning to put questions, this amiable professor had the courtesy to ask me if I preferred his pronouncing Latin in the English or Scotch way, remarking that the latter method most resembled ours. I allowed him to do in this respect as he pleased; and I had the good fortune completely to satisfy my examiners. The examination was followed by a very merry supper (*un souper fort gai*), to which Dr. Gregory invited me along with the professors." (pp. 141.)

DIE MENSCHENBLATTEN UND DIE KUHPOCKENIMPFGUNG: EINE GESCHICHTLICHE SKIZZE. Akademischer öffentlicher Vortrag gehalten im Grossrathssaale am 11 Marz, 1852, von Professor Dr. K. E. HASSE. ss. 49. Zürich: 1852.

(SMALL-POX AND VACCINATION: A HISTORICAL SKETCH. BY PROFESSOR C. E. HASSE. Zürich: 1852.)

The object which PROFESSOR HASSE had in view in publishing this little work is shewn in his preface, which we translate.

"When, in the course of last winter, the teachers of our high school

agreed to give single lectures to an extended circle of hearers, my choice fell on the very important subject of small-pox and vaccination. While I was occupied in the work, the London Committee for the erection of a monument to Jenner, did me the honour to appoint me one of their foreign associates. I believed that I ought to perform the duty thereby devolving on me by printing the lecture referred to, and devoting the produce of the little work as a small contribution to the memorial of one of the greatest benefactors of mankind. For all the world, in accordance with the laudable intention of the projector, ought to contribute to this monument; and each contribution should be in a certain degree considered as a proof of the fame of Jenner.

"If, by the many circumstances mentioned in the following leaves, the remembrance of the great benefits, for which almost every one has to thank the discover of vaccination, should be refreshed, I call on the reader to co-operate with me, that a permanent memorial of our gratitude may be erected."

The work is a historical sketch of small-pox and vaccination, written in a popular style, and without discussion of the more scientific or practical questions connected with the subject.

MILITARY SURGERY; or, EXPERIENCE OF FIELD PRACTICE IN INDIA during the Years 1848 and 1849. By J. J. COLE, Esq., M.R.C.S.E., H.E.T.C.S., late Surgeon to the Auxiliary Forces during the War in the Punjab.

Military surgery, we are informed, differs not, when viewed as a science, from surgery in general (p. 1); and we certainly could have wished that this undeniable proposition had been more fully illustrated in the work before us. The book, we are informed, is written from recollection of the past, and is wholly the result of practical experience (Preface). We fear that we might with justice substitute the term "personal" for "practical". We do not mean to imply that the author has not candidly and well recorded that which he has seen, but we cannot forbear coming to the conclusion, that had he seen more, and had he had an opportunity of noting the symptoms of cases as he observed them at the time instead of from "recollections", and, above all, had he availed himself of the labours of others in the same department, he would have recorded what he did see in a different manner.

The second case mentioned in the work will serve to illustrate our observations. We give it at length. "A soldier had his leg carried away during the first siege of Mooltan, close to my tent. He lost scarcely an ounce of blood: what he did lose was venous. The patient suffered very severely from the shock, but rallied during amputation, and did well. *Chloroform would have killed him!*" What pathological connexion there may be between the sentence we put in italics and the rest of the case, the reader is left to conjecture. The difficulty, however, is afterwards cleared up for those who are fond of following protracted arguments. Eight pages further on, we find something especially for the benefit of subordinate medical officers.

"In desperate wounds of the extremities, where you are obliged to affix the tourniquet in order to prolong life and to give time for the administration of stimuli, in order to render the poor sufferer able to bear necessary amputation,—will any thinking man give chloroform? We think, we hope not." (pp. 90, 91.) Our author has surely forgotten, or has never observed, that chloroform and ether are as powerful stimulants as any that his medical storekeeper could supply. But no. "Pain is one of the most powerful and most salutary *stimulants known*. It brings about reaction of the most natural kind, and is therefore to be preferred"!!! (p. 90).

CRITICAL DIGEST OF BRITISH AND FOREIGN MEDICAL JOURNALS.

[The Articles quoted or abridged are indicated by an asterisk.]

L A N C E T.

MAY, JUNE, JULY, AND AUGUST.

1. IMPORTANT POINTS IN SURGERY. By G. J. GUTHRIE, Esq., F.R.S. May 1, June 12, July 17, August 7 and 28.
- 2.*CASE OF HIRSUTE GROWTH IN A FEMALE. By W. D. CHOWNE, M.D. May 1, 29, July 17.
3. CASE OF DISPLACEMENT OF BOTH HUMERI. By H. GREENWOOD, Esq. May 1.
4. ON APOPLEXY AND EPILEPSY, AND ON AN HOSPITAL FOR EPILEPTICS. (Croonian Lectures, 1852.) By MARSHALL HALL, M.D., F.R.S. May 8, 15. (Conclusion.)
5. ON REINSCH'S PROCESS FOR THE DETECTION OF ARSENIC. By HARRY RAINY, M.D. May 8, (Conclusion.)
6. CASE OF VARIOLA CONTEMPORANEOUS WITH VACCINIA, both modified. By ROBERT FOWLER, M.D. May 8.
7. OPERATIONS FOR THE REMOVAL OF CANCER. [Clinical Lecture.] By JOHN SIMON, Esq., F.R.S. May 15, 22, 29.
- 8.*DISEASE OF THE GLANDS OF THE NECK IN CHILDREN. [Clinical Lecture.] By TYLER SMITH, M.D. May 15.
9. ON EXCISION OF THE HEAD OF THE THIGH-BONE. By G. J. GUTHRIE, Esq., F.R.S. May 15.
10. ON THE DETECTION AND PRESERVATION OF CRYSTALLINE DEPOSITS OF URIC ACID, URATE OF AMMONIA, AND OTHER URINARY SALTS. By A. H. HASSALL, M.D. May 15.
11. USE OF GLYCERINE IN THE TREATMENT OF CERTAIN FORMS OF DEAFNESS. By THOMAS WAKLEY, Esq. May 15.
12. CASE OF CANCER OF THE STOMACH. By MARRIS WILSON, M.D. May 15.
13. REMARKABLE FORM OF BULLOUS DISEASE IN NEW-BORN INFANTS AND CHILDREN. By ROBERT BARNES, M.D. May 15 and 22.
14. CASES OF ARRESTED PULMONARY PHTHISIS. [From Out-patient Department of Brompton Hospital.] By RICHARD QUAIN, M.D. May 22, June 12.
15. CASE OF CONTRACTION OF THE STOMACH. By THOMAS DALE, Esq. May 22.
16. FRACTURED RIBS CONNECTED WITH EMPHYSEMA. [Clinical Lecture.] By JOHN HILTON, Esq., F.R.S. May 29.
17. CASE OF PUERPERAL CONVULSIONS FROM CEREBRAL CONGESTION, treated by Bleeding and Tartarised Antimony. By J. B. MAWER, Esq. May 29.
18. SINGULAR CASE OF ASPHYXIA. By G. P. MAY, M.D. May 29.
19. LECTURES ON LITHOTOMY AND LITHOTRITY. By WILLIAM COULSON, Esq. June 5, 12; July 3, 10, 24, 31; August 14, 21.
20. SYPHILITIC IRITIS IN INFANTS. By JAMES DIXON, Esq. June 5.
21. OVARIAN DROPSY TREATED BY PRESSURE. By I. B. BROWN, Esq. June 5, July 31.
22. POLICY AND PATHOLOGY OF INSANITY. By JOSHUA BURGESS, M.D. June 5. (Continuation.)
23. PSYCHOLOGICAL CHARACTER OF THE PHYSICIAN. [Lettsonian Lectures.] By FORBES WINSLOW, M.D. June 12, 19, 26.
- 24.*CLINICAL ILLUSTRATIONS OF SUBACUTE OVARITIS. By E. J. TILT, M.D. June 12, July 17, August 14.

25. IMPORTANT POINTS IN THE CHEMISTRY AND PATHOLOGY OF THE URINE. By A. H. HASSALL, M.D. June 12, 19.
26. STRICTURE OF THE URETHRA AND PERINEAL SECTION. [Clinical Lecture.] By WILLIAM COULSON, Esq. June 19.
27. CASES OF HERNIA. By BRANSBY B. COOPER, Esq., F.R.S. June 19, August 7.
28. CASES OF EMPYEMA. By C. J. B. ALDIS, M.D. June 26.
29. INTERESTING CASE OF GUNSHOT WOUND. By H. P. LAURENCE, Esq. June 26.
30. SIMULTANEOUS DISLOCATION OF THE HUMERI. By G. Y. HUNTER, Esq. June 26.
31. MALFORMATION OF THE GENITAL ORGANS AND BLADDER. By B. DULLEY, Esq. June 26.
32. IMPORTANT POINTS IN MIDWIFERY. By J. POWER, M.D. July 3, 18, 24, 31; August 14.
33. CHLOROFORM INJECTIONS IN GONORRHOEA. By H. BEHREND, Esq. July 3.
34. CASE OF GONORRHOEAL OPHTHALMIA. [Clinical Lecture.] By JOHN ADAMS, Esq. July 10.
35. ILLUSTRATIONS OF SUCCESSFUL TREATMENT OF CLEFT PALATE. By JOHN AVERY, Esq. July 10.
36. POISONING BY STRYCHNIA: RECOVERY. By J. C. FORSTER, M.B. July 10.
37. CASE OF VACCINIA AND VARIOLA. By G. H. HOPKINS, Esq. July 17.
38. EFFECTS OF LEAD UPON THE SYSTEM. [Lumleian Lectures.] By JAMES ALDERSON, M.D., F.R.S. July 24, 31, August 21.
39. TWO CASES OF OVARIAN ABSCESS, WITH REMARKS. By T. H. TANNER, M.D. July 24.
40. NEW METHOD OF TREATING DYSPEPSIA. By J. SPURGIN, M.D. July 24.
41. CASE OF RUPTURE OF JEJUNUM, CAUSED BY A KICK FROM A HORSE: PERITONITIS: DEATH IN THIRTY-SIX HOURS. By M. J. M'CORMACK, M.B. July 24.
42. CAMPHOR, AN ANTIDOTE TO STRYCHNINE. By J. PIDDUCK, M.D. July 24.
43. CASE OF VACCINIA AND VARIOLA IN AN INFANT. By T. C. BEATTY, Esq. July 24.
44. CASE OF TUMOUR OBLITERATING THE VENA CAVA. By W. J. COX, Esq. July 31.
45. CASE OF CATALEPSY, ILLUSTRATING NEW PRINCIPLES OF TREATMENT IN CONVULSIVE AND SPASMODIC DISEASES. By C. B. RADCLIFFE, M.D. July 31.
46. INJURIES AND DISEASES OF THE JOINTS, [Clinical Lectures.] By SAMUEL SOLLY, Esq., F.R.S. August 7 and 14. (Conclusion.)
47. CASES OF FISSURE OF ANUS AND ULCER OF LOWER PART OF RECTUM. By T. J. ASHTON, Esq. August 7.
- 48.*CASE OF BOTHRIOCEPHALUS LATUS OCCURRING IN AN ENGLISH CHILD, cured by Oil of Male Fern. By W. W. GULL, M.D. August 14.
- 49.*ON CARBUNCLES AND BOILS, with reference to their prevalence as an Epidemic. By THOMAS HUNT, Esq. August 14 and 28.
50. TRIPLE PHOSPHATE IN URINE AND OTHER ANIMAL LIQUIDS. By J. W. GRIFFITH, M.D. August 14.
51. CASES OF STONE IN THE BLADDER. [Clinical Lecture.] By JOHN HILTON, Esq., F.R.S. August 21.
52. CASE OF DISEASE OF AORTA, AND HYPERTROPHY OF LEFT VENTRICLE. By JOHN TOPHAM, M.D. August 21.
53. REMOVAL OF A CARIOUS OS CALCIS. By A. G. FIELD, Esq. August 21.
54. CONTRIBUTION TO CLINICAL MIDWIFERY. By N. J. HIGHMORE, M.D. August 21.
55. CASE OF DEATH FROM FIBRINOUS CONCRETION IN HEART. By WALTER GARSTANG, M.D. August 28.

56. CASE OF RUPTURE OF PERITONEAL COAT OF UTERUS. By RICHARD LEE, Esq. August 28.
57. CASE OF PHLEGMASIA DOLENS OF UPPER EXTREMITY AFTER PARTURITION. By J. M. WINN, M.D. August 28.

REMARKABLE CASE OF HIRSUTE GROWTH IN A FEMALE.

By W. D. CHOWNE, M.D.

The history of the case, and comments thereon, were delivered by Dr. CHOWNE to the students of Charing Cross Hospital.

CASE. "The woman, J. B., is twenty years of age, a native of V——, in Switzerland, and by occupation a needlewoman. She states, that at her birth she had, as she has been informed by her parents, a beard—that is to say, a considerable quantity of hair growing on those parts of the face usually occupied by the beard and the whiskers in men, except on the upper lip, and on the hollow immediately under the lower lip. It was at her birth, she states, about as long and as thickly spread as it usually is on a man's arm; in other respects she was not different from other female children. The beard grew gradually, and when she had attained the eighth year of her age it was two inches long. At about eighteen years of age, catamenial functions commenced, and have continued perfectly normal. She has had, and still has, very good health. Her occupations and dispositions are all womanly.

"THE HIRSUTE GROWTHS. At the present time, the beard and whiskers are what would be called very abundant, full, and strong, exceeding in quantity even that of the beard and whiskers of men generally in this country. It grows also on the parts covering the cheek-bones, under the eyes. Those parts of her face which were without beard at her birth, are still without. The hair forming the whiskers varies in length from one to four inches; that of the beard is about the same length. It is all strong, and rather coarse, as well as being very thickly set. She states that it does not require cutting. When she appears in public, she has a handkerchief folded three-cornerwise on her head, put on so that two of the corners pass down over the sides of her face, and meet just below the mouth, thus concealing the peculiarity. As the handkerchief cannot be worn so as to conceal that part of the face over the cheek-bone, (as it would then cover the eyes also), she shaves that part. In her own village, where she was well known, she had no occasion for the handkerchief, but in a strange place she finds it necessary, lest the police should regard her as a man disguised in woman's apparel.

"The hair growing from the crown and back part of the head is two feet and a half long, and that growing from the front part of the head two feet. Both the front and back hair is moderately abundant, not excessively so. It is neither fine nor coarse; the colour dark brown; that of the whiskers and beard the same.

"On the neck, and on the parts just below the clavicles, are numerous hairs thinly spread; much coarser and longer than the hair generally visible there in men. On the shoulders, arms, and fore-arms, to the wrists, there is a quantity of hair, about equal to what would be found in a man moderately hirsute, but more uniformly spread over the whole circumference of these limbs. The mammæ and the whole of the sternal portion of the chest are quite free from hair, indeed quite fair. The breasts large, fair, and strictly feminine in all respects, including papillæ and areolæ. On the back part of the shoulders there is also a good deal, and a tolerably broad line of dark hair extends down the back, sufficiently abundant to give quite a dark appearance in the line or depression over the vertebral column. The nates and the parts covering the tuberosities of the ischia, all have hair pretty uniformly spread, and in quantity about as much as would be on the limbs of a more than commonly hairy man. The anterior surface of the abdomen,

extending from the umbilicus to the pubal and inguinal regions, has the masculine quantity and the masculine distribution. The surfaces of the inferior extremities, to the ankles, are in the same state, excepting only the knees and hams, which are in the more ordinary state.

"GENERAL FORM AND VOICE. She is of short stature. The form of the head is not remarkable. The upper part of her thorax and the pelvis are feminine; her legs and knees less so. The feet small. The arms and the hands small and feminine. She has not any malformation of any kind. Dressed as a man, she would not have anything *particular* to betray her. Her manner, however, appears to be gentle, and would constitute a contrast to man's attire. Her voice, in conversation, is not remarkable either way. She sings occasionally, and then it is feminine.

"She states that, in her own country, it was deemed that there must be within the abdomen organs male in their character, both corresponding to the superfluous hirsute growth, and accounting for it. She was, at the time of my seeing her, about five months advanced in pregnancy. Besides the usual and less certain signs, the foetal cardiac sounds were audible.

"FAMILY, RELATIONS, ETC. She states that her mother's complexion was neither dark nor fair, but between the two. Her father was of dark (brown) complexion, and had not much beard or whiskers. Her mother's father was remarkable for having both whiskers and beard extremely large. She has one brother, man grown, who is, she states, almost entirely beardless; and two sisters not different from other young women. Her mother does not attribute the peculiarities to fright or other cause that she has any knowledge of.

"CO-EXISTENCE OF THE SECONDARY INDICATIONS OF SEX WITH MALFORMATION OF THE PRIMARY. In almost all instances where the general contour or aspect, or other secondary peculiarities, indicative of the sexes, are blended in the same individual, obvious specific malformation, or excess, or deficiency, or a combination of the primary peculiarities of sex, has been found.

"In this case, however, there is a series almost complete of masculine indications or peculiarities of the general or secondary character, apparently in the *entire* absence of specific malformation, or excess, or deficiency, or combination, presenting an example to be classed amongst accidental growths of hair, rather than amongst such special growths as are the consequences of special physiological influences.

"With reference to the possible existence of a concealed organ or organs in the subject of these remarks, it is worthy of notice, that, although the superfluous growth is in some respects favourable to the supposition that such organs do exist, in other respects it does not favour that view. The beard, for example, existed *at birth*, and at *eight years old was two inches long*—thus anticipating the period of puberty, instead of accompanying or following it, and proceeding altogether in advance, and *apparently independently*, of special organic influence. The beard was, and still is, confined to certain parts of the face, and is absent on others, where, in accordance with special influence, in a male, it should have been present, as on the upper lip and under the lower. On the whole of the anterior part of the trunk above the umbilicus, where, in accordance with the same influence, it should be even specially abundant, it is wholly or very nearly wholly absent. These circumstances conspire to weaken the supposition that there are concealed male structures, and to strengthen the probability that the superfluity of hair belongs to the accidental class."

DISEASE OF THE GLANDS OF THE NECK IN CHILDREN.

BY TYLER SMITH, M.D.

DR. TYLER SMITH believes that, in many cases, the enlargement and supuration of the cervical glands in children is due to local and removable causes, and does not depend upon any constitutional taint. He says:

"The lymphatic vessels take their rise, among other tissues, from the skin

and mucous membrane, but particularly from the latter. Different tracts of mucous membrane even have their different congeries of lymphatic vessels and glands, with which they are in intimate relation; as, for instance, the bronchial membrane and the bronchial glands, the urethra and the inguinal glands, the vagina and rectum, and the glands of the pelvis. In prolonged bronchial irritation, we get enlargement of the bronchial glands. In urethral inflammation, we have enlargement and suppuration of the inguinal glands; in irritation of the rectal and vaginal mucous surfaces, fistula or pelvic abscess from glandular inflammation and suppuration. Certain parts of the tegumentary surface are also in special relation with certain groups of glands; as, for instance, the skin of the upper extremity with the glands of the axilla, and the skin of the inferior extremity with the glands of the femoral region. It is quite unnecessary to do more than refer to the frequency with which injuries of the skin are followed by glandular suppuration in these situations.

"Now, I am convinced by careful observation, that the mucous membrane of the mouth, nares, and fauces, is in especial relation with the great number of glands and lymphatic vessels studding every part of the subcutaneous surface of the neck; and I am equally convinced that in the great majority of cases of enlarged cervical glands, the source of the disease exists in the neighbouring mucous membrane. Some irritation is present in the mucous surface, which affects the lymphatic vessels, and these propagate it to the glands, the glands inflame, pus is formed, the skin gives way, and the unhappy child is said to be the subject of a scrofulous sore. The scar is indelible, and ever afterwards the suspicion of scrofula is preserved.

"We see the influence of irritation of the mouth and fauces in producing enlargement of the cervical glands in its most marked degree, in scarlatinous and other forms of sore-throat. We see it also in the irritation of the mucous membrane in measles, dentition, salivation, aphthæ, carious teeth, canker, diseases of the gums, enlarged tonsils, common catarrh, a thickened state of the nostrils and Schneiderian membrane, thrush, and other affections to which this important division of the mucous membranes is subject. When there is a depraved state of the constitution, scrofula breaks out in different organs simultaneously; but when we see a local origin producing strictly local disturbance, and spreading only from point to point around the first disorder, I submit that we may fairly give the first place to local causes. In the end, no doubt, the persistence of local disorder may, and often does, produce the scrofulous constitution. The direction in which local disease of the lymphatics extends is generally from the surface of the body towards the thoracic duct, the centre of the lymphatic system; but this is not invariable; disease may travel down reversely from the lymphatics of the axilla or inguinal region to the knee or shoulder joints, but its extension in these directions takes place very slowly.

"It is in states of debility that inflammation of the lymphatic system most frequently occurs. In this, as in many other points, the lymphatics resemble the veins. The tendency to inflammation in the lymphatics may be produced by the very means taken to subdue inflammation in organs of higher vitality; it is frequently seen in its most marked form after bleeding and mercurialisation. In the chronic form, it travels so slowly, that its extension as a local malady is completely masked. Although the primary irritation is so frequently derived from the mucous surface, when a gland has once inflamed, it becomes a source of irritation to other glands in its vicinity, which in turn become inflamed, particularly if the primary gland suppurates. The following case is a good illustration of the local origin of glandular disease and its gradual spread along the lines of the lymphatic system.

"In consequence of a purely local irritation occurring in a young person of average health, one of the lateral cervical glands slowly became enlarged, and after several months suppurated. The sore thus produced excited,

through the medium of the lymphatic communications, several of the other glands of the neck, most of them below the seat of the first suppuration. A succession of abscesses was the result. The last gland which supplicated in the neck was situated in the pit between the sternal heads of the clavicles and the clavicular attachments of the sterno-cleido-mastoid muscle. Here the disease took two different directions. One extended downwards as far as the middle of the sternum, where all traces of suppuration ceased. The other extended first to the axilla, where several glands supplicated: after this, suppuration successively took place upon the arm, then around the elbow-joint, and lastly low down upon the forearm. At this point the second track of suppuration ended, and the patient completely recovered her health. The only occasions on which any threatening of a recurrence has been perceived has been when an inflamed cicatrix has irritated some of the glands around it. The events here related in a few seconds extended over several years, and any one seeing the case casually would have been impressed with the appearances of a constitutional malady; but I am persuaded that without the local irritation the eruption of a glandular disease would never have taken place in this instance, and I am equally convinced that every step was a strictly local extension of disease.

"I have, on the other hand, frequently seen cases in which an inflamed gland has been promptly relieved by lancing an inflamed gum, or by the extraction of a carious tooth. The same result may frequently be obtained by treating a sore-throat, relieving a diseased state of the gums, improving a thickened state of the mucous membrane of the nares, or relieving any of the numerous affections to which the mucous passages to the œsophagus and trachea are liable. The point I would strenuously insist upon is this, that while constitutional treatment is of importance in all cases, wherever enlarged glands are present, the mucous membrane with which those glands are in relation is almost sure to be diseased, and to require treatment. We must look, not merely to the glands, but to the internal sources of irritation; and unless we do this, both constitutional treatment and topical applications to the diseased glands will frequently fail. I may mention that, of all topical applications, I know of nothing equal to the effect of small and repeated blisters applied to the enlarged glands, so as to produce a full discharge of serum from the skin covering the gland. The tincture of iodine is a good remedy, but it seems to me to act in such cases rather as a counter-irritant than as an absorbent, and in the former point of view it is not equal to the cantharides.

"While swelling of the cervical glands is by no means a certain sign of the scrofulous habit, there is, I believe, one almost unfailing sign of this condition in young children. It consists of enlargement of the fingers, particularly of the first and second phalanges. The tumidity is chiefly seen over the metacarpal bones, the joints remaining of the natural size or nearly so. The swelling is soft, but not œdematous, and evidently consists of infiltration amongst the deeper structures of the finger. The surface is pale and shining, conveying the impression of semi-transparency when the tension is great. Unless in the advanced stages, there is no pain; the last phalanx is seldom affected, and the point of the finger appears by comparison smaller than usual.

"The seat of this curious change appears in the first instance to be in the periosteum, and I have known instances in which, without any other manifestation of disease, the bones of a finger have exfoliated, and have either escaped by suppuration or have required removal. I have seen this enlargement of the finger begin a few weeks after birth. Whenever the puerile finger is morbidly enlarged in the manner described, the scrofulous constitution may be anticipated; and I believe the tumid finger to be the earliest indication of this state presented by young children. When it is observed, the subjects of it require that every exertion should be used to remedy the general debility, of which it is the certain and unmistakeable sign."

CLINICAL ILLUSTRATIONS OF SUB-ACUTE OVARITIS.

BY E. J. TILT, M.D.

DR. TILT relates several cases that have come under his care, illustrative of sub-acute ovaritis: and draws from them the following practical deductions.

"1. With regard to the PREDISPOSING CAUSES of sub-acute ovaritis, irregularity of the menstrual process is one of the most frequently observed; for eight times out of ten it occurred in connexion with menstruation. The earlier part of womanhood also would seem most liable to this disease, as seven out of ten patients were under twenty-three, and the eldest was only thirty-two. Those too are most liable to it who are endowed with a sanguine constitution, dark eyes, and red, auburn, or black hair, constitutional peculiarities generally supposed to be allied to an ardent temperament. In this, my experience is supported by that of Dr. Pistocchi, of Bologna, who has lately published some interesting cases of ovaritis, and says that all the patients were women gifted with strong passions. Six out of the ten patients were single.

"2. The DETERMINING CAUSES were over-exertion during menstruation, the sudden impression of cold, marriage. In five cases, however, none could be discovered.

"3. The SYMPTOMS: pain in one or in both ovarian regions. The pain being fixed, but sometimes subject to irregular exacerbations, being increased by pressure, by going up and down stairs, by a false step, or by anything that could jar the corresponding limb. It is well to notice that pressure on the ovarian regions did not generally determine pain in the course of the lumbo-abdominal nerves. In two cases the pain was accompanied by an amount of abdominal swelling discernible to the eye, obscurely felt on pressure on the abdomen, better appreciated by a vaginal examination, and which would have been made certain if a rectal examination had been deemed requisite. In five cases there was considerable pain and swelling of the breast corresponding to the side affected, and of both when both sides were diseased. Dr. Pistocchi has noticed it in two cases; but I think Dr. Lightfoot has gone too far in considering it as pathognomonic of ovarian inflammation. Thus the mammary glands, the uterus, and the ovaries, form a chain of organs as strongly linked together in the morbid as in the physiological state. In Case 1 there was numbness and pain in the corresponding limb, a symptom noticed by Dr. Simpson. In four cases there was fever, but of no great intensity.

"4. The TERMINATIONS OR MORBID CONDITIONS induced by sub-acute ovaritis were, a painful congestion of the womb in four out of ten instances; in three, remittent menstruation; a deficiency of the menstrual excretion in three more; and in two, bilious plethora. Dr. Rigby has dwelt on the sickening nature of the pain determined by ovaritis; and Dr. Woolley, of Brompton, tells me he has often seen cases similar to those above described by me, and frequently noticed sickness as one of the symptoms. Dr. Laycock alluded to it some time back as a symptom frequent in this, as in all ovarian states, both physiological and morbid.

"5. TREATMENT: The same local measures previously described were always adopted, with the addition of leeches and the internal exhibition of antimonials when there was fever. In the cases coinciding with marked biliary derangement, I prefaced all treatment by an emetic, the temporary increase of pain thus mechanically determined being amply compensated by the relief speedily afforded to the patient. Sulphate of quinine was very useful in bringing back menstruation to its normal type; and I cannot too strongly recommend its exhibition alone, or combined with steel or opium, according to the case.

"6. DURATION OF THE DISEASE: Generally about twenty-one days; but in one case, of probable long standing, it was four months, and in another there was a relapse.

"With this summary of my cases I might conclude, if they did not afford me an opportunity of offering some remarks on the DIAGNOSIS of sub-acute ovarian affections—remarks, the length of which will perhaps be indulgently received, on account of the recognised difficulty of arriving at a correct diagnosis.

"Cases similar to the preceding have doubtless been of frequent occurrence, but they have been differently interpreted.

"I. Formerly when they were met with, and sometimes even now, particularly when they do not occur at the monthly periods, they were confounded with diseases of the womb, and called inflammation of the bowels—a name which will doubtless be considered erroneous, as far as the localisation of the disease is concerned, but which, being correct in the indications of its nature, fortunately often leads to proper treatment.

"II. When cases similar to those I have reported took place at, and in connexion with, the menstrual periods, they were, and are even now, confounded with many other morbid states, under the name of dysmenorrhœa. They are considered to be merely an increase of that pain by which menstruation is usually attended, and generally left without treatment. This I believe to be often detrimental to the patient's after health.

"III. Some would be inclined to explain my cases by incipient uterine disease, and might be impelled by theory to resort to measures, excellent in uterine, but unnecessary, if not dangerous, in ovarian disease. Being in doubt as to four out of the ten cases, a digital examination convinced me that there was no uterine disease; and in the history of the other cases there was nothing to make me suspect its existence, nor to warrant a vaginal examination.

"Admitting that mine were neither cases of inflammation of the bowels, of dysmenorrhœa, nor of uterine disease, I must remark that they can only be explained by supposing them to depend on a nervous affection of the ovary itself, or of the lumbo-abdominal nerves, which supply alike the womb and the ovaries and their protecting cavity, unless I am right in considering them to exemplify a subdued type of ovarian inflammation. It would be impossible for me to show that they did not depend on ovaralgia or lumbo-abdominal neuralgia, unless I be permitted to clear the ground by a few remarks on these affections.

"*Ovaralgia* has been admitted by systematic writers, vaguely described by German pathologists, and lately brought prominently forth under the name of ovarian irritation, by Dr. Fleetwood Churchill. But while admitting that the ovaries, like the uterus, may express their own disorder by pain transmitted to the same system of nerves, we must also bear in mind that those nerves may take upon themselves a morbid action, quite independent of diseased ovaries or womb—that lumbo-abdominal neuralgia may exist.

"Certain forms of *lumbo-abdominal neuralgia* were well described by Chaussier; but it is only since the modern investigations of the nervous system, that it has been permitted satisfactorily to explain, by lumbo-abdominal neuralgia, certain morbid states formerly ascribed to the abdominal viscera. Without pretending to say that ovaralgia does not exist, I must own that I have never as yet been able to detect it, and am inclined to think that cases described as such are to be referred to the lumbo-abdominal neuralgia."....

"Supposing it be conceded, until further researches, that ovaralgia is but another name for lumbo-abdominal neuralgia, then it only remains to me to establish the diagnosis between it and sub-acute ovaritis, which is often rendered difficult by the similarity of the seat of pain in both complaints. Those of a nervous temperament are most liable to lumbo-abdominal neuralgia, not brunettes of a sanguine constitution, as in most of the cases given in the previous papers. Pain exists in all, but while in sub-acute ovaritis it is more fixed, continues with the same intensity without regular exacerba-

tion, and is exasperated by every kind of pressure, in lumbo-abdominal neuralgia it is quite the contrary; for although there may be at all times a dull, aching sensation, it is frequently not so, and the pain recurs by repeated attacks, and is relieved by wide or even by continued pressure with the united tips of the fingers. Dr. F. Churchill rightly says, that what he terms ovarian irritation is characterised by a kind of nervous tenderness, which shrinks from the weight of the finger as much as from severe pressure, and not by the *positive* pain, as in my cases.

"There is no swelling, no heat, no pain of the ovaries, when these organs are subjected to a rectal examination, as correctly stated by Dr. F. Churchill, whereas there is heat, swelling, and pain, in sub-acute ovaritis.

"The pain is unaccompanied by any sympathetic pain of the breasts, or fever, in lumbo-abdominal neuralgia; not so in sub-acute ovaritis. Lumbo-abdominal neuralgia is so frequent an accompaniment of uterine disease, that Dr. Beau and others expect to find it when the former exists, and Dr. Bennet looks upon its ovarian forms as almost pathognomonic of uterine disease, while sub-acute ovaritis is not so frequently induced by uterine disease. Lastly, with regard to the treatment. Repeated blisters and opium are of most use in lumbo-abdominal neuralgia, but such remedies, valuable in the latter stages of the disease, require to be employed after leeches, emollients, etc., in sub-acute ovaritis."

"Sub-acute inflammation of the ovaria does more than cause temporary ill health; it may determine or be accompanied by ovarian peritonitis, and even set up inflammation in the surrounding portion of the peritonæum. Many obstetric writers, as well as Burns, Sir C. M. Clarke, and Dr. R. Lee, have noticed the great frequency of lesions of the ovaria, and of false membrane in their vicinity, even in unmarried women—lesions not to be accounted for by any previous severe uterine disease, from which it could be ascertained that the patients had suffered.

"With regard to peritonitis, I will merely cite the practice of one London hospital, St. George's, where the post-mortem appearances are noted with a praiseworthy care. In 1850, the medical practice afforded four instances of idiopathic peritonitis; three occurred in young women of twenty, twenty-one, and twenty-four years of age; with two, the menstrual function was deranged, and the patients anæmic; the third, though married eighteen months, had had no children, and, after passing pus in her stools, she recovered.

"Now, it seems to me, that the cases I have previously related are explanatory of those of peritonitis. Again, there is a form of peritonitis to which women are more subject than men, in which bridles of lymph are so attached as to bind the intestine, and produce fatal incarceration. Why should such bridles be more frequent in the vicinity of the ovaria? I will answer this question, as I found it in one of the last impressions of the *London Medical Gazette*. An eminent pathologist, Dr. Renaud, of Manchester, relates the death of a girl, twenty-one years of age, from two bridles of lymph, which produced an impenetrable stricture of the ileum, and adds the following reflections:—

"My own experience in pathological anatomy, and a perusal of the cases recorded by others, justifies the conclusion that peritonitis in females arises in many instances out of a chronic form of congestive irritation, to which the generative apparatus within the abdomen is liable. That this long-continued irritation, as manifested directly by pain and throbbing in the region of the ovaries and uterus, and indirectly by lumbar irritation, dysmenorrhœa, crural pains, etc., does frequently advance to local inflammatory action, is sufficiently evident from the bands of lymph that are so frequently seen matting the ovaries, broad ligaments, and oviducts together. If, therefore, folds of bowel or portions of omentum are in contiguous relationship with parts influenced by these morbid actions, it is not contrary to rational patho-

logy to infer that they will partake in a limited degree of the same actions ; and a bond of union being thus morbidly constituted, it only requires time and the peristaltic action of the bowels to elongate the lymph into a band, which, under accidental circumstances, may prove an incarcerating medium.'

"Rokitansky is likewise of opinion that internal constrictions of the intestines are much more frequent in females than in males ; a result which, indeed, might have been anticipated, on account of the great changes in function, structure, and position, to which the abdominal viscera are subject, by menstruation, pregnancy, and from uterine and ovarian tumours ; and this esteemed author also reports that—

" 'In two instances with which I am familiar, the pressure of the prolapsed ovarium, loaded with purulent fluid, produced in each case a fatal form of *ileus*. In one of these, the tumour filled the rectum ; neither bougie nor injection could be conveyed beyond it, and such was its apparent solidity, that I did not for a moment contemplate puncturing. But the deception was fatal to the patient. The second case, very similar in all respects to the first, occurred in the practice of a surgeon in the country, who sent me its history, and the morbid parts for examination.'

"The pith of the present communication can be summed up in a few words :

"I. It seems urgent on us carefully to bear in mind the frequency of inflammatory products in or about the ovaries, the frequency of intense suffering in the ovarian regions at the menstrual periods, and the great probability of both facts standing one to the other in the relation of cause to effect.

"II. It seems incumbent on us to bear in mind the greater liability of young women to idiopathic peritonitis, and incarceration from bridles of inflammatory lymph, at the very age when I have shown that even the sub-acute inflammation of the ovaries is most frequent, and therefore the imperative necessity of watching over the first stages of a complaint, which, being too often left to nature, is as frequently productive of serious mischief.

"III. Lastly, that sub-acute ovaritis can be distinguished from uterine affections as well as from lumbo-abdominal neuralgia, but that at all events no harm can ensue from the treatment recommended."

CASE OF *BOTHRIOCEPHALUS LATUS*, OCCURRING IN AN ENGLISH CHILD. BY W. W. GULL, M.D.

The patient was a female child, aged five years, who came unto Guy's Hospital in February 1852, with symptoms of tape-worm. Oil of male-fern was given ; and the worm, including the head, was expelled entire. The parasite was not the common English tape-worm (*tenia solium*), but the *bothriocephalus latus*, which is generally described as peculiar to the Russians and Swiss. No sufficient cause could be assigned for its occurrence.

DR. GULL makes the following remarks.

"In our present state of knowledge respecting intestinal worms, every fact connected with their history deserves to be recorded. The occurrence of the *bothriocephalus latus* in persons who have not lived out of England is rare. Professor Owen states, that in looking over the collection made by a celebrated worm-doctor in Long-acre, he found three specimens of this worm ; two of these had come from persons who had been in Switzerland, of the third no authentic account could be given. In a conversation with him on the case here recorded, he remarked that a sea-port was just the locality in which we might expect to meet with anomalies in geographical distribution of intestinal worms, since their ova might be deposited in various ways in such localities, by persons who traded thither, and that it was surprising their occurrence was so rare. To which I may add, that when we consider the fertility of these creatures, and the possibility of Russian sailors being infested with them, we may indeed wonder that they have not been imported amongst us ; and the fact that they have not been prevalent,

suggests that they are more dependent upon *external conditions of soil and the like*, than upon the human body itself—for we can hardly suppose that the intestinal secretions of a Russian or a Swiss are more favourable to the existence of a *bothriocephalus latus*, than are those of an Englishman.

"The circumstances under which these creatures exist out of the body are yet unknown, but their restriction to certain localities, and the changes of form which some of this class undergo, render it probable that we may yet recognise them under some other form in the water of the places where they occur. With such views, we can well understand why the tape-worm of one locality should not prevail in another, and also why, where a solitary exception is found, it should be in a place having communication with foreign countries.

"The extreme fertility of the *bothriocephalus* will be understood, by considering that each foot of the well-developed worm contains 150 segments or joints, that each joint possesses its own ovary and male organs. Hence, each joint is fertile; and as each ovary would produce 8000 ova, according to as careful a calculation as possible, ten feet of such a worm would produce 12,000,000 of ova.

"I have taken every means of examining the head of this specimen, but can find no trace of a terminal pore, by which it could imbibe nourishment, nor any signs of vessels by which the intestinal fluids, if so taken up, could be distributed. It seems probable, that these animals nourish themselves as the *algæ* do, *by absorbing the fluids in which they are immersed by the whole surface of their bodies*; a view which, I think I am at liberty to say, is thought by Professor Owen to be not improbable."

ON CARBUNCLES AND BOILS. BY THOMAS HUNT, ESQ.

MR. HUNT's remarks are intended to draw attention to the prevalence of furunculose eruptions as an epidemic.

"My own attention was first called to the disease about the commencement of the year 1849, when I had occasion to remark that chronic eruptions of the order *Pustulæ* had become unusually common, especially among a class of patients not frequently affected in this way—namely, the well-fed; their eruptive diseases being generally confined to the orders *Vesiculæ*, *Squamæ*, and *Papulæ*. I had also observed that in a patient under treatment for lepra or psoriasis of long continuance, the scales would disappear, and a crop of pustules would spring up in their place. This is no very unusual thing at any time, but the frequency of the occurrence arrested my attention. The next thing I observed was, that the superficial whitlow became very common. In one patient not less than seven fingers, and in another five, became affected in succession with this disease. In the course of three months about twenty patients consulted me in my private practice, with a collection of purulent matter immediately under the dermis, near the matrix of the nail, or at a short distance from it, in one, two, or more fingers of both hands, and in some instances occupying the palm. Shortly after this, boils and carbuncles were brought much more frequently under my notice than usual; some of the latter were of alarming character, though none of them fatal. These painful affections appeared to be very capricious in selecting their locality, scarcely any part of the body being passed over, excepting only the legs and feet. One patient, a middle-aged lady, had a carbuncle on the back of her neck, the inflammation extending around the throat up to the apex of the occipital bone, and down to the dorsal vertebræ. Another female had an immense furuncle on the *os coccygis*; a third on the right labium; and a fourth, a young lady aged seventeen, had the whole abdomen covered for several weeks together with a succession of boils and ecthymatous pustules. A gentleman had a carbuncle on the scalp of prodigious size, in the year 1851, and in the spring of 1852, very recently, another still

larger occupying a different portion of the scalp ; another patient had one on the thigh ; a third in the axilla, which appears to be a very common locality ; a fourth on the mastoid process ; a fifth on the throat, near the larynx ; and several on the buttock. A servant girl having been under treatment for an eczematous eruption on the wrist, upon the disappearance of this disease, presented the fore-arm covered with furuncular abscesses. Several females presented themselves with pustules and boils on the forehead, ears, eyelids, sternum, mammæ, and indeed on almost every part of the body, the face not escaping. At present, however, I have not met with a single case of carbuncle or boil below the knee, although pustules have been observed on the legs, and boils are very frequently seen on the thighs.

“Although the seat of this epidemic is the skin and subcutaneous tissues, it has by no means the character of a purely local disease. The health has in most cases suffered more or less before the breaking out of the disease and during its progress ; and in several cases, in which it has persisted for some weeks, successive crops of boils or pustules appearing in different parts of the body, a restoration of the general health of the patient has appeared to be the signal for the final disappearance of the local affection. The impaired health which has accompanied the disease has been various in character and duration ; but its prevailing type has been general and local debility, and a feeble, sluggish action of the heart and arteries. Many patients have complained of a slight degree of giddiness, a few of headache, and several have mentioned an indescribable sense of oppression at the præcordia, a general feeling of languor, and inaptitude for bodily or mental exertion, and an unusual degree of fatigue, sometimes amounting to faintness, from a very moderate amount of muscular effort. The pulse has generally been feeble and slow, thus denoting the cerebral symptoms to be indicative rather of deficient energy in the circulation than of plethoric congestion of the brain. A degree of hoarseness, such as accompanies typhus fever and hæmorrhagic atony, and other exhausting diseases, has occasionally accompanied the attack. The voice appears to take a higher pitch, and to have lost its fulness and mellowness. This has chiefly been noticed in men. All these symptoms tend to but one conclusion—viz., that the furunculoid, like all other epidemics, is attended by a deficiency of power in the system. The worst case of carbuncle I have yet met with occurred in a lady, whose strength had been reduced by long anxiety, reverses, and misfortunes, and want of sufficient nourishment. The poor and ill-fed have been the most frequent, as well as the most severe sufferers ; and a medical gentleman who is largely engaged in practice among the higher classes has recently assured me that he was not aware of the existence of any epidemic, and that he certainly had not observed a more than average number of carbuncles and boils among his own patients. Like all other epidemics (which usually spend their strength upon the asthenic portion of society), this affection does occasionally attack persons well fed and apparently in the full tide of health and strength. And it is worthy of observation that medical men, who usually appear to be exempted, as if by a special providence, from many contagious influences, yet seem to have been frequently selected as the victims of this disease ; and in one lamented instance, a carbuncle proved fatal to a practitioner in Dalston Terrace. I have not, however, been able to trace any proof of contagion in this epidemic. On the contrary, I can call to mind very few instances in which it has occurred simultaneously, or even consecutively, in a plurality of persons in the same household. In large schools, I believe, about twenty per cent. only have been attacked.

“With regard to the statistics of the disease, it is impossible to form any estimate of the number of persons attacked in proportion to the population ; but among the patients treated at the Western Dispensary for diseases of the skin, I find that twenty-one per cent. have been more or less affected with the epidemic in some one or other of its various forms. Two per cent.

were attacked with carbuncles, eight per cent. with boils, nine per cent. with pustules, and two per cent. with sub-cutaneous abscesses. The onychian form of the disease seems to have disappeared, and to have given place to those pustular tumours of the eyelids called styas.

"The geographical extent of the epidemic is one of its most extraordinary features. I have traced it to every part of the metropolis : to Oxford, Cambridge, Bath, Bristol, Manchester, and other cities and towns of England, to North and South Wales, to the northern coast of Kent, to the southern coast of Hampshire, and to the Isle of Wight. Reports have reached us of its prevalence in Ireland and in Scotland, in France and in Austria, in both the East and West Indies, in the city of Philadelphia, and at the Cape of Good Hope. Literary notices of the epidemic may be found scattered in nearly all the medical periodicals, both British and foreign ; and what is most singular, it appears to have broken out in the four quarters of the globe at one and the same time, and to have been influenced in its rise, progress, and decline by one universal cause."

ARCHIVES GÉNÉRALES DE MÉDECINE.

JULY AND AUGUST 1852.

1. PHYSIOLOGICAL AND PATHOLOGICAL RESEARCHES ON TACTILE SENSATIONS. By M. LAUDRY. July.
2. ELECTRO-PATHOLOGICAL AND PATHOLOGICAL RESEARCHES ON THE ACTION AND USES OF THE MUSCLES WHICH MOVE THE THUMB AND FINGERS. By DR. DUCHENNE. July.
3. CONTRIBUTION TO THE HISTORY OF THE ENDEMIC NERVOUS COLIC OF HOT CLIMATES (Dry Colic, Vegetable Colic, Madrid Colic, Neuralgia of the Great Sympathetic, etc.). By DR. J. B. FONSSAGRIVES. July.
- 4.*CLINICAL RESEARCHES ON SOME NEW SIGNS FURNISHED BY PERCUSSION, AND ON THE TYMPANIC SOUND IN CASES OF LIQUID EFFUSION INTO THE PLEURA. By DR. H. ROGER. July and August.
5. CLINICAL REMARKS ON THE DISEASE WHICH HAS RECEIVED THE NAME OF CIRRHOSIS OF THE LIVER. By DR. E. MONNERET. August.
6. ON DRESSING BY OCCLUSION IN COMPOUND FRACTURE. By M. TRASTOUR. August.
7. CASE OF GENERAL FIBRO-PLASTIC DEPOSIT, SIMULATING CANCER OF THE LUNG : WITH REMARKS. By DR. WOILLEZ. August.
8. ON PERINEAL URETHROTOMY FROM WITHOUT INWARDS, BY THE PROCESS OF MR. SYME, OF EDINBURGH : REVIEW OF THE ENGLISH WORKS ON THIS QUESTION. By DR. E. FOLLIN. August.

CLINICAL RESEARCHES ON SOME NEW SIGNS FURNISHED BY PERCUSSION, AND ON THE TYMPANIC SOUND HEARD IN CASES OF LIQUID EFFUSION INTO THE PLEURA.

BY DR. H. ROGER.

The main object of Dr. ROGER's paper is to bring prominently forward the views of Skoda, of Vienna, whose researches do not appear to be so well known in France as in England. We extract Dr. ROGER's *resumé* of the principal facts regarding pleurisy which have appeared in the works of M. Skoda, and which have been confirmed by his own clinical researches.

CONCLUSIONS. I. ON PERCUSSION IN GENERAL. In percussion of the thorax, most pathologists admit only one series of sounds, varying more or less from clearness to dulness : as a resonance with special *timbre*, they only notice the cracked-pot-sound. M. Skoda divides the modifications of pectoral resonance into four series : 1. From full sound to hollow sound ; 2. From clear to dull ; 3. From tympanic to non-tympanic ; 4. From high sound to low sound.

II. ON PERCUSSION IN PLEURISY. A. *Of certain New Peculiarities.* False membranes on the surface of the lung, even when they are thick, do not sensibly modify the sonorousness of the thorax ; they diminish it only when they contain osseo-calcareous concretions. A layer of liquid of some *millimètres*, and even a *centimètre* in thickness, interposed between the lung and pectoral wall, does not sensibly diminish the resonance of the lung ; the modifications of sound in these cases will depend exclusively on the condition of the lung or the correspondent thoracic wall. In cases of pleuritic effusion, depression of the level of dullness, as shewn by pleximetric percussion, is not always a proof of a real diminution in the quantity of liquid : the lowering may arise from a reduction in the size of the lung, or from increase of the pleural cavity by expansion of its walls or depression of the diaphragm. The mobility of the liquid in the pleura, and in consequence the displacement of the thoracic dullness by changes in the position of pleuritic patients, is a much more rare phenomenon than is generally believed.

B. In order to understand M. Skoda, it is necessary to give to the word *tympanic* a less restricted meaning than it generally possesses. The tympanic sound is not always clear and strong (its usual characters), but sometimes a little dull and hollow. Often, in clinical practice, there is said to be dullness ; but if this supposed dullness were carefully studied, it would be found to be only apparent, and that there really existed a peculiar kind of resonance, of a hollow tympanic character.

PROPOSITIONS. 1. In cases of liquid collection in the pleura, there is tympanic resonance above the level of the effusion.

2. The tympanic sound in pleurisy is not an accidental phenomenon, but is very frequently present (M. Roger found it in 41 cases of 51) : it must be ranged among the signs of pleural effusion, as much as ægophony or bronchial *souffle*.

3. Sometimes the resonance of the sub-clavicular region of the affected side is manifestly exaggerated ; the sound is higher than on the healthy sides, where it may even seem relatively dull. Sometimes the tympanic sound is only remarkable by its peculiar characters ; it may be hollow and yet tolerably clear, or it may be hollow and dull ; the *timbre* is an entirely special one—the cracked-pot sound.

4. Several elements concur in the production of the tympanic sound in pleurisy : the liquid, the lung, and the correspondant thoracic wall ; and each bears a certain part.

5. With regard to the causes of the phenomenon and its pathological meaning, the following facts have been determined :

a. The tympanic sound is commonly absent where the effusion is very scanty or of long standing : where it is moderate or recent, the sound is, *in most cases*, clearer under the clavicle of the affected than of the healthy side, and truly tympanic ; *tolerably often*, when the collection is more abundant, there is clear tympanic sound under the clavicle, and hollow towards the level of the liquid. When the effusion is very considerable, there is *sometimes* a very empty, cracked-pot resonance.

b. Experiments show that the tympanic sonorousness of the subclavicular region in pleurisy is not an exclusive consequence of the *immediate approach of the lung* to the interior of the chest above and in front, and that this sonorousness may be manifested in spite of the interposition of a layer of liquid of variable thickness between the thoracic wall and the viscus : the proximity of the latter is sufficient to give a tympanic sound. Hence this resonance may exist in other parts of the thorax besides under the clavicle, provided that the layer be thin, and that the lung be filled with air, and at a short distance from the thoracic wall. Emphysema of the upper and anterior part of the lung is not an indispensable condition of tympanic resonance in the subclavicular region. The lung, when reduced by compression to its smallest volume, but still containing air, always gives a tympanic

sound on percussion : it is a general fact (and easily demonstrable by experiment, although apparently in contradiction to physiological laws) that the *pulmonary parenchyma, even less aerated than in the healthy state, gives a more or less evident tympanic resonance.*

c. The tympanic sound, in pleurisy with effusion, is again modified by the variable degree of *tension of the thoracic wall* : it is more distinct in proportion as the chest is thinner and more flexible, and *vice versa*.

6. In pleurisy, the tympanic sound has a certain diagnostic and prognostic value : it may be considered one of the signs of pleural effusion. It may aid the diagnosis of pleurisy in certain difficult cases. By its seat, its extent, and its various degrees, it furnishes useful indices of the quantity of fluid, of its disposition, its progress and decrease, on its relation with the lung and the relation of this viscus to the thoracic walls, and the amount of compression or permeability of the pulmonary parenchyma. It aids in establishing the differential diagnosis between pleurisy and pneumonia. The practitioner, who might be ignorant of the existence of this new sign in pleurisy, might attribute the tympanic sound under the clavicle to partial emphysema, to pneumothorax, either idiopathic or from perforation, or to gangrenous, or especially tubercular excavation of the lung.

III. NEW FACTS RELATING TO PERCUSSION IN PNEUMONIA, EMPHYSEMA, ETC. 1. The pulmonary parenchyma, even *containing less air* than in the healthy state, gives, on percussion, a more or less evident tympanic sound : a portion of lung infiltrated with serum, or blood, or tubercular matter, and *not entirely deprived of air*, furnishes a tympanic sound more or less hollow or dull, in proportion to the quantity of air. In percussing the thorax, tympanic resonance will there be obtained in some cases of pneumonia, of tubercular infiltration, and of pulmonary œdema and apoplexy.

2. The natural pulmonic sound is not tympanic. The lung, distended more than its healthy state (vesicular emphysema), furnishes a sound sometimes tympanic and sometimes non-tympanic. *Partial emphysema*, surrounding an engorged and non-aerated parenchyma (which may happen in pneumonia), gives rise to a resonance which is usually tympanic ; while this rarely occurs in *general emphysema*, and is never present in *interlobular emphysema*. When, in emphysema, the pulmonary tissue is excessively distended by the air contained in the air-cells, and at the same time the thoracic walls are very tense, the thoracic resonance, instead of being exaggerated, as might *à priori* be expected, is diminished : thus is explained (and not by the presence of false membranes covering the lung) the small amount of sound which is sometimes found on percussing the chests of patients, who are nevertheless highly emphysematous.

3. In *pneumothorax*, the pectoral resonance is tympanic when the chest on the affected side is moderately distended, but scarcely ever when the tension is extreme.

4. When the *abdomen* is percussed, the varying tension of the abdominal wall may cause the resonance to vary : the more tense the wall is, the more obscure is the sound. The same occurs with regard to the resonance in cases of *pneumatoxis*.

GAZETTE MÉDICALE DE PARIS.

FOR JULY AND AUGUST 1852.

1. ANALOGIES AND DIFFERENCES BETWEEN COWPOCK AND SMALL-POX. By DR. A. DECHAMBRE. July 3.
2. ON PHAGEDENIC AND GANGRENOUS AFFECTIONS IN CHILDREN, and on their Scorbutic Nature. By DRS. BOULEY and CAILLAULT. July 3, 10; August 14 and 21. (To be continued.)

3. EXPERIMENTAL RESEARCHES ON THE MODIFICATIONS OF ANIMAL HEAT, by the Introduction into the Economy of Various Therapeutic Agents. By MM. DUMÉRIL, DEMARQUAY, and LECOINTE. (Conclusion of article.) July 3.
4. INFLUENCE OF VACCINATION ON POPULATION. By Dr. A. DECHAMBRE. July 10.
5. REMARKS ON A CASE BY M. ZELASCHI, OF PRIMITIVE AND CONSTITUTIONAL SYPHILIS IN A MAN, CURED BY SYPHILISATION. By M. P. DIDAY. July 10.
6. ON SOME SPECIAL ANATOMICAL CHARACTERS OF THE NEGRO RACE, and especially on the Obliquity of the Pterygoid Apophyses. By Dr. JACQUART. July 10.
7. CASE OF ENGORGEMENT OF THE UTERUS, complicated with Adhesions and Retroflexion, cured by Lateral Compression by an Air Apparatus. By M. FAVROT. July 10.
- 8.*ON SUBCUTANEOUS CAUTERISATION : ITS EFFICACY IN AMAUROSIS. By M. JULES GUÉRIN. July 17.
9. ON THE TONIC EFFECTS OF THE HYDROTHERAPEUTIC TREATMENT. By Dr. GUETTET. July 17.
10. ON A NEW APPLICATION OF METALS IN THE STUDY AND TREATMENT OF CHLOROSIS. By Dr. BURQ. July 17 and 31.
11. CASE OF VERY COMPLICATED WRY-NECK OF OLD STANDING, cured by Subcutaneous Incision of the Sterno-mastoid and Platysma myoides. By M. CARRON DU VILLARDS. July 17.
- 12.*ON RESEARCHES IN HÆMATOLOGY. By MM. BECQUEREL and RODIER. (Conclusion of article.) July 24 and 31.
13. ON THE TREATMENT OF SPRAIN. By Dr. CHARDON. July 24.
14. CASE OF SPONTANEOUS GLANDERS IN A FEMALE. By Dr. TESSIER. Aug. 7.
15. ON THE TREATMENT OF SPRAIN. By Dr. SEUTIN. August 14.
16. CASE OF TRAUMATIC HYPOSPADIAS, CURED, after five months, by Cauterisation and the application of a Pommade of Oil and Wax. By Dr. POULET. August 21.
- 17.*ON A NEW INSTRUMENT FOR PERFORMING THE OPERATION FOR CATARACT AND FOR ARTIFICIAL PUPIL. By Dr. FURNARI. August 21.
- 18.*ON HYDATID CYSTS OF THE PELVIS. By M. CHARCOT. August 28. (To be continued.)
19. CASE OF PURULENT INFECTION FOLLOWING CAUTERISATION OF AN INDURATED BUBO WITH VIENNA POWDER. By Dr. BOURGUET. Aug. 28.
20. ON THE EMPLOYMENT OF A NEW KIND OF NEEDLE FOR DEPRESSING CATARACT. August 28.

SUBCUTANEOUS CAUTERISATION : ITS EFFICACY IN AMAUROSIS.

In a thesis lately sustained before the Faculty of Medicine in Paris, M. PHILPEAUX, a pupil of M. BONNET, of Lyons, described the process of subcutaneous cauterisation, as practised by the last-named surgeon. The object in view is, to act on the tissues beneath the skin, without destroying it. The process consists in passing a *caustic seton* under the skin, and detaching cellular tissue in cylindrical pieces as the thread is drawn through.

M. Bonnet forms, with equal parts of chloride of zinc and flour, a cylinder a little longer than the tract of the intended cauterisation. On this cylinder, he fastens cotton threads, which extend six or eight inches beyond it. The cylinder is then introduced into a passage made for it by means of a seton-needle, of a somewhat smaller diameter than the caustic cylinder. After remaining for twenty-four hours, the caustic produces a cylindrical eschar of the length of the parts traversed, and three-fourths of an inch in diameter: the diameter of the cylinder being about a quarter of an inch. Eliminative suppuration is established: after some days, the eschar begins to be

detached, and the wound which follows is in the form of a channel covered with a bridge of sound skin.

M. Bonnet has employed this method both as a destructive or resolvent remedy, and as a simple revulsive. It is especially in amaurosis that he has found it successful. M. Philipeaux reported eleven cases; and drew the following general conclusion from them: "In cases of amaurosis connected with head affections, in healthy subjects, cauterisation will certainly be beneficial; but if the amaurosis is complicated with derangement of the general health, cauterisation must be abandoned, or, at least, marked good effects must not be expected from it." The caustic seton is applied to the nape of the neck; and is not incompatible with the various remedies indicated by the etiological circumstances of the disease.

RECENT RESEARCHES ON HÆMATOLOGY. BY MM. BECQUEREL
AND RODIER.

(Concluded from September Number, p. 833.)

ORGANIC DISEASES OF THE HEART. For convenience of study, MM. BECQUEREL and RODIER divide these affections into three classes:

1. Those in which there are as yet only local phenomena—certain physical signs, slight dyspnœa, and palpitation; the constitution being not yet affected:

2. Those in which the general health is more disturbed, as shewn by more severe dyspnœa and palpitation, with slight œdema of the lower limbs:

3. Those in which the disease is developed with a characteristic train of symptoms—yellowish cachectic face, considerable dropsy, urgent dyspnœa; finally, death.

FIRST CLASS. Fifteen subjects,—eleven males and four females,—were examined. As a general result the quantity of water increases, and the density consequently diminishes; the globules tend to decrease slightly, their average being 125; the fibrin is not modified; the albumen is slightly diminished. But among these cases, in those of simple hypertrophy, the amount of globules, albumen, and fibrin, is increased. In cases where the hypertrophy is secondary to valvular disease, there is often, especially in females, some anæmia; hence the globules are diminished: and there is almost always a slight diminution of the quantity of albumen and fibrin.

SECOND CLASS. Twenty-four persons,—eighteen males and six females,—were examined. The quantity of water in 1000 parts of blood is greater than in the preceding class, and the specific gravity is lower; the average of globules falls to 117. The fibrin generally increases, without any assignable reason. The albumen diminishes. Two circumstances in this stage affect in some degree the composition of the blood, anæmia and dropsy. The former lowers the amount of globules, while the latter decreases the quantity of albumen.

THIRD CLASS. The quantity of water in 1000 parts of blood is notably increased, and the solid matter diminished in proportion. The proportion of globules is 110 per 1000. The fibrin generally averages from 2 to 2½ parts in 1000: sometimes even less, and there is then a remarkable tendency to hæmorrhage, which the authors have observed in two cases. But the greatest change occurs in the serum, the density of which is diminished, the proportion of water large, and that of albumen, extractive, saline, and fatty matters, small. There is in fact a similar change to that which occurs in chronic Bright's disease, though less intense. The alteration in the serum is greater as dropsy increases, and as the disease approaches its fatal termination.

The following explanation is offered, as a theoretical one, of the diminution of albumen and extractive matters. This diminution is consecutive to dropsy, and appears only when it is well marked: it is then probably due to

the impoverishment of the blood by the loss of its serum in mechanical dropsy. When once the blood is impoverished in this way, it is probable that infiltration goes on much more rapidly, and that the serum, being much more watery, is poured out more easily under the agency of two causes acting in the same direction—the impeded circulation, and the diminution of the solid matters in the serum.

The following practical deductions are given by MM. Becquerel and Rodier :—

In simple hypertrophy of the heart, without lesion of the orifices and valves, the blood is rich in solids, and of high specific gravity : the globules, albumen, and fibrin are abundant. This explains the happy effects of blood-letting in this stage of heart-disease—a practice well established, but now confirmed by the study of the changes in the blood.

In diseases of the valves and orifices, accompanied by hypertrophy, the blood is changed in a different manner. As the disease advances, the proportion of solid matters diminishes, and the density of the blood increases. In the treatment, the diminution of the globules indicates the preparations of iron ; and in many such cases they have long been known to produce good effects. The essential point is to correctly determine the nature of the case. The diminution in the albumen indicates cinchona : this being shewn by the cachectic tint of the skin and the amount of dropsy. The diminution in the fibrin points to the frequent use of roast juicy food, and of fibrinous aliments easy of digestion.

SCURVY. MM. BECQUEREL and RODIER describe first, a *scorbutic diathesis* (*état scorbutique*) symptomatic of other diseases, and distinct from scurvy. It is characterised by a diminution of fibrin below 2 in 1000, and is met with among *chronic diseases*, in anæmia (1 case in 8), Bright's disease (2 in 28), dropsy from diminution of albumen (4 in 23), and heart-diseases (20 in 69). The symptoms also have given evidence of the decrease of fibrin in some cases of constitutional syphilis, and old cerebral affections and palsies.

In some *acute diseases* also, the quantity of fibrin is constantly decreased, but only under two well marked conditions—1, when the acute disease lasts for a very long time, as in most typhoid fevers, and in prolonged suppuration : 2, in certain special forms of these diseases, as hæmorrhagic variola, measles, scarlatina, and typhoid fever. Although the blood in yellow fever and certain intermittent fevers has not been analysed, these must probably be placed in the same category.

The characters of the scorbutic state are : 1, the production of subcutaneous hæmorrhage, or on the surface of mucous membranes : 2, disproportionate functional debility.

IDIOPATHIC SCURVY is considered as acute and chronic.

ACUTE SCURVY. The blood does not here present any appreciable change. Hæmorrhages occur in various parts of the subcutaneous tissue and mucous membranes, the patients are weakened, there are vague pains in the limbs, and yet the quantity of globules, albumen, and fibrin, remains within the healthy limits—nay, the fibrin is sometimes increased. But it must have undergone some modification in its physical condition, seeing that it permits the blood to pass beyond the walls of the capillary vessels. This has been ascribed to an increased proportion of soda, rendering the fibrin more soluble. This, however, according to MM. Becquerel and Rodier, is open to doubt, notwithstanding that some facts appear to support it.

In the treatment of acute scurvy, the state of the blood justifies the employment of a remedy long fallen into oblivion, but which has been employed successfully in a number of cases—viz., one or two general blood-lettings at the commencement of the disease. Lind, Sydenham, Cruveilhier, Fauvel, and the authors, have all recommended this treatment, and practised it with success. After the bleeding, rest, a carefully regulated diet, and especially the treatment by acids, are the proper means to be employed.

CHRONIC SCURVY. The fibrin is constantly diminished. Is the amount of soda increased in the same proportion? It is possible, even probable; but the fact has to be demonstrated.

The treatment which succeeds best is the use of vegetable acids of all kinds, or rather of vegetables containing a large quantity of them. The action of these is easily explained by the hypothesis of an excess of soda in the blood. The acids, taken into the stomach, are absorbed into the circulation, where they undergo combustion, and are eliminated with the urine in the form of carbonate of soda.

CONCLUSIONS. 1. In most chronic diseases, or rather as a result of various modifications in health, the three principal elements of the blood-globules, albumen and fibrin, may be diminished or increased, singly or in combination. The associations depend on the nature of the diseases.

2. The amount of globules is diminished in the course of most chronic diseases of long duration, especially in organic diseases of the heart, in chronic Bright's disease, chlorosis, marsh cachexia, hæmorrhages, excessive sanguineous discharges, fluxes, the last stage of tuberculisation, and the cancerous diathesis: also when the patient has had insufficient or innutritious food and insufficient air, damp and dark habitations, etc.

3. The albumen of the serum diminishes in Bright's disease, marsh cachexia, diseases of the heart in the third stage, extensive symptomatic anæmia, and the cancerous diathesis. The albumen is also diminished as a result of insufficient food.

4. The fibrin remains at its normal standard, and even rises above it, in acute scurvy: it is diminished in chronic scurvy, and in the scorbutic state symptomatic of some chronic diseases; and it is in diseases of the heart that this state is most frequent and best marked.

5. In all the preceding cases the quantity of water in the blood is increased much above the healthy standard.

6. The diminution in the amount of globules is shewn chiefly by the following symptoms: loss of colour of the skin, palpitation, dyspnoea, blowing murmur with the first sound at the base of the heart, intermittent blowing murmur in the carotid arteries, continuous blowing murmur in the jugular veins.

7. The diminution in the proportion of albumen, even when inconsiderable, when it takes place rapidly, quickly produces dropsy. When the diminution is more chronic, dropsy is still produced; but the diminution of albumen must be greater than when it is acute. In general, dropsy is a symptomatic mark of the diminution of albumen.

8. The diminution of fibrin is shewn by the production of cutaneous or mucous hæmorrhages.

9. In the anæmia symptomatic of excessive hæmorrhage, of insufficient food, and of profuse fluxes, the change in the blood is characterised by low specific gravity, increase of water, diminution of globules, the albumen being of its normal quantity or sometimes slightly diminished, and the fibrin in healthy amount.

10. In chlorosis, which is an affection quite distinct from anæmia, changes in the blood may be entirely wanting. When present, they consist in increase of the water, diminution of the globules, and the retention of the healthy quantity, or increase, of the albumen and fibrin.

11. In acute Bright's disease, the quantity of globules and fibrin is normal, while the albumen is diminished. In chronic Bright's disease, the globules and albumen are diminished, and sometimes the fibrin.

12. Most idiopathic dropsies are due to the diminution of albumen in the blood. They are acute or chronic, and generally have as their origin some destruction of the solid or liquid constituents of the organism.

13. In diseases of the heart, the blood is changed in proportion as the fatal termination approaches. The changes consist in the simultaneous

diminution of the globules, albumen, and fibrin, and in the increase of the water.

14. In acute scurvy, the blood does not undergo any appreciable modification. In chronic scurvy, the fibrin is remarkably diminished in quantity, and sometimes the globules are much increased. In both forms an increase in the proportion of soda would explain the facts, but it wants demonstration.

15. All these modifications exert a great influence on the medicinal treatment of various morbid conditions. Each element of the blood is modified by a special therapeutic method. The diminution in the quantity of globules is combated by chalybeates; that of albumen, by cinchona and nutritious diet; the diminution of fibrin and the increase of soda in the blood, by tonic regimen and the use of vegetable acids.

NEW INSTRUMENT FOR PERFORMING THE OPERATION FOR CATARACT AND FOR ARTIFICIAL PUPIL. BY DR. FURNARI.

The principal application of Dr. FURNARI's instrument is to entirely remove adherent portions of the capsule, and thus prevent the formation of secondary cataract.

The needle, fixed in an ivory handle, is of the same size as Scarpa's; it consists of a stem ending in two perfectly equal branches, which unite to form a slightly curved point, and having their internal surfaces toothed, to seize the pieces of opaque capsule. A sheath, extending into the interior of the handle, accompanies the needle as far as the base of its point. The instrument is moved by means of an apparatus in the handle. By pressing on the lever the sheath is withdrawn into the handle: the needle then separates, seizes and detaches the opaque bodies which obstruct the pupil, and, when the thumb is removed from the lever, the needle again closes, forming a true forceps. The advantage in this instrument is, that pressure on the lever opens the blades of the needle, by which it is rendered more easy of appliance than when constant pressure is required to keep the instrument closed.

Dr. Furnari also describes a forceps-knife (*couteau pince*) and a forceps-curette (*curette pince*), on the same principle.

HYDATID CYSTS IN THE PELVIS. BY M. CHARCOT.

M. CHARCOT has collected cases in which hydatid cysts have been present in the pelvis of the female, and arrives at the following conclusions:—

1. Hydatid cysts are sometimes met with in the female in the cavity of the pelvis. Their primitive seat is sometimes in one of the ovaries, sometimes in the extra-peritoneal areolar tissue.
2. These cysts may be single or multiple, and accompanied by similar cysts in other parts of the body.
3. They offer an obstacle to the excretion of urine and fæces, and may impede delivery.
4. Cure sometimes is effected by their spontaneous opening into the rectum, sometimes by their being opened through the vagina, by a cutting instrument.
5. The escape of one or more acephalocysts is, during life, the characteristic sign of these tumours. In one case, M. Charcot found echinococci in the acephalocyst. These are not mentioned in the other published cases.

L'UNION MÉDICALE.

JULY AND AUGUST, 1852.

1. ON DISPLACEMENT OF THE UTERUS. By M. VALLEIX. July 1, 15, 31, August 31.
2. CASE OF RECTO-VESICAL INCISION AFTER AN UNSUCCESSFUL TRIAL OF THE SUB-PUBIC INCISION. By M. V. FLEURY. July 1.
- 3.*ON NOCTURNAL INCONTINENCE OF URINE. By M. TROUSSEAU. July 3.
4. CASE OF TUBERCLES IN THE TESTICLES, EPIDIDYMES, VESICULÆ SEMINALES, PROSTATE GLAND, KIDNEYS, AND LUNGS. By M. RICORD. July 3.
5. ON ALBUMEN, AND ITS DIFFERENT STATES IN THE ANIMAL ECONOMY. By M. MIALHE. July 6, 8, 13, 20, and 29.
- 6.*NEW METHOD OF ADMINISTERING IODINE. By M. HANNON. July 6.
7. ON CHOREA: ESPECIALLY PARTIAL CHOREA. By M. SANDRAS. July 10.
8. NEW REMEDY FOR HYDROPHOBIA. By DR. J. MOREAU. July 15.
9. SUDDEN DEATH FROM RUPTURE OF AN ANEURISM OF THE AORTA, WHICH HAD BEEN MISTAKEN FOR ŒDEMA OF THE GLOTTIS. By M. LAUVERGNE. July 15.
10. CASE OF HYDROPHOBIC SYMPTOMS FOLLOWED BY RECOVERY. By DR. MOREAU. July 17.
11. ENCEPHALOID TUMOUR IN THE PALM OF THE HAND: EXCISION: RETURN OF DISEASE: DISARTICULATION OF THE THUMB: RECOVERY. By M. JOBERT DE LAMBALLE. July 17.
12. ON THE LIGHT FURNISHED TO FORENSIC MEDICINE BY EXAMINATION OF THE SKIN AND UMBILICAL CORD IN NEW-BORN CHILDREN. By DR. E. HERVIEUX. July 17 and 20.
- 13.*A NEW NEEDLE WITH MOVEABLE POINT FOR DEPRESSING CATARACT; AND A NEW INSTRUMENT FOR SECTION OF THE CORNEA IN THE OPERATION FOR CATARACT. By M. LAUGIER. July 20.
14. ON THE DISCUSSION ON SYPHILISATION IN THE ACADEMY OF MEDICINE. July 22, 29, August 5, 12, 19, and 28.
15. SINGULAR CASE OF ABNORMAL PREGNANCY: UTERO-PELVIC FŒTAL CYST; EXPULSION OF THE SKELETON OF A FŒTUS, PARTLY BY THE OS UTERI, PARTLY BY AN ABSCESS IN THE ILIAC FOSSA. By M. FORGET. July 22.
- 16.*CASE OF SPONTANEOUS GLANDERS IN A FEMALE. By DR. TESSIER. July 22. (This case is also reported in the Gazette Médicale.)
17. REPORT ON SYPHILITIC INOCULATION (SYPHILISATION) MADE TO THE ACADEMY OF MEDICINE IN PARIS. By M. BEGIN. July 24.
- 18.*NEW METHOD OF PERFORMING TRACHEOTOMY. By DR. C. GERSON. July 24.
19. ON A SUPPOSED CASE OF ABDOMINAL PREGNANCY IN THE HÔPITAL BEAUJON. July 27. (The case had been diagnosed as extra-uterine by some obstetricians; but the woman was ultimately delivered naturally.)
20. CASE OF HYDROPHOBIA TREATED BY CHLOROFORM: REMARKS. By DR. A. MIGNOT. July 27.
21. CASE OF HYDROPHOBIA (?) CURED BY BLEEDING AND COLD AFFUSIONS. By DR. L. MORISSEAU. July 27.
22. ON THE DISEASES WHICH SIMULATE HYDROPHOBIA. By DR. LIÈGEY. July 27.
23. ON THE USE OF SARSAPARILLA IN CANCEROUS DISEASES. By DR. LERICHE. July 31, and August 3.
24. CASE OF CALCULUS OF THE BLADDER AND PROSTATE: NARROWING OF THE CANAL OF THE URETHRA: CONSECUTIVE LESIONS OF THE URINARY APPARATUS. By DR. LAFORGUE. August 3.

25. ON THE CAUSES AND TREATMENT OF AMAUROSIS. By M. S. SANDRAS. August 5.
26. ON HYDROPHOBIA. By M. CLOT-BEY. August 7.
27. CASES OF STRICTURE OF URETHRA, TREATED WITH ALUMINATED BOUGIES. By M. JOBERT DE LAMBALLE. August 7.
28. PRACTICAL OBSERVATIONS ON THE CONVULSIONS OF PREGNANT AND PUERPERAL WOMEN: WITH CASES BY DR. DE PIETRA SANTA AND DR. SAUREL. By M. G. RICHELOT. August 10, 14, 17, 21, and 26.
29. ON HELMINTHOLOGY. By DR. ROBIN. August 10.
30. CASE OF INTERMITTENT FEVER FOLLOWING A FALL. By DR. LIÈGEY. August 10.
31. CASE OF POISONING WITH GRANULES OF DIGITALINE. By DR. LEROUX. August 19.
32. OBSERVATIONS ON A CASE OF SPONTANEOUS DISLOCATION OF THE CRYSTALLINE LENS INTO THE ANTERIOR CHAMBER OF THE RIGHT EYE. By DR. COMPÉRAT. August 28.
33. THERAPEUTIC PROPERTIES OF TANNATE OF QUININE. By M. BARRESWIL. August 28.

NOCTURNAL INCONTINENCE OF URINE. BY M. TROUSSEAU.

M. TROUSSEAU observes that the nocturnal enuresis of children and young persons takes place after they have been asleep one or two hours, and that they retain the urine during the rest of the night. As a possible explanation of this, he refers to the fact that there is erethism of the genital organs during the commencement of sleep; and asks then, whether they may not be a tenesmus of the bladder? But, he further asks, why should not the sphincter then tend to retain the urine?

M. Trousseau speaks highly of the treatment by belladonna, as recommended by MM. Bretonneau and Morand (see LONDON JOURNAL OF MEDICINE, January 1849). In almost every case in which he has used it, he has found it successful.

The organs must be caused to lose their bad habits; and this may be done by awakening the children after they have slept an hour, in order that they may urinate. On the next night they are awakened a few minutes later, and the time of awakening is made later every night, until at last it is desisted from. This has sometimes effected a cure.

At the same time, pills containing a *centigramme* of extract of belladonna are given: a week after the quantity is raised to two, and then to three, rarely to five *centigrammes*. The child is now roused only on alternate nights, and if it has not wet its bed on those nights when it has been left asleep, it is not awakened; if it continues free from enuresis for a fortnight, the dose of belladonna is diminished. If the case goes on favourably, the treatment is alternately resumed and intermitted for some weeks, until it is finally left off. This is necessary, as the disorder may return after some months, in the manner of marsh fever.

In cases of incontinence of urine, eczema of the vulva or prepuce may be produced by the irritation of the urine: it may then extend to the meatus urinarius, and cause tenesmus of the bladder.

If belladonna fails, the syrup of sulphate of strychnine is sometimes found useful. If these fail, flagellation and stinging with nettles may be useful, as instruments of intimidation, or perhaps they may have some reflex power.

M. Trousseau finally describes an oval compressor, which he has devised for the treatment of nocturnal enuresis.

An elastic band is fixed round the body, and supports at the back a spring which reaches to the anus. To this is fitted a metallic plate, on which is fixed a truncated cone of caoutchouc, two or three *centimètres* (about two-

thirds of an inch to an inch) in diameter at the base, according to the age of the patient, and the amount of compression required. The pressure may be increased or diminished by introducing the cone more or less deeply; and the size is varied by adding perforated shields of caoutchouc, in greater or less number, so as to diminish the length of the cone. Straps are passed under the thighs; and thus we have a light bandage, in no way inconvenient, which, in boys, acts in some way as a sphincter, by compressing the neck of the bladder and preventing the urine from escaping, and imparts to the bladder the habit of remaining full during the night as well as during the day.

But as this method could only be applied in girls *per vaginam*, and then with great difficulty, M. Trousseau employs a modification of the instrument contrived by M. Gariel for arresting uterine hæmorrhage. It consists of a caoutchouc bag, which is introduced beyond the hymen: by means of a tube it is inflated with air, and a stopcock attached to it is closed. The bag presses on the lower part and neck of the bladder; and in the morning the instrument, having been emptied of air, is taken out and cleaned.

NEW METHOD OF ADMINISTERING IODINE. BY M. HANNON.

The method described by M. HANNON is, to place from five to twenty grains of iodine in a fold of cotton wadding, to sew it in a piece of linen, and to apply it to the part affected. It should be covered with oiled silk or gutta percha, to prevent it from turning the garments blue. Applied in this way, iodine acts very rapidly.

NEEDLE, WITH MOVEABLE POINT, FOR DEPRESSING CATARACT; AND A NEW INSTRUMENT FOR SECTION OF THE CORNEA, IN THE OPERATION FOR CATARACT.

BY M. LANGIER.

Almost every surgeon must have experienced the inconvenience of the ordinary cataract needles, with a fixed point. Displacement of a fragment of the lens, or of a portion of the opaque capsule, can only be effected by making the lancet describe extended arcs of circles, having as a centre the point of the sclerotic traversed by the instrument. The extent of these arcs leads to too great lacerations of the hyaloid membrane, and sometimes even to injury or detachment of the iris. M. LANGIER believes that these difficulties and dangers may be partly avoided by articulating the point on the stem of the needle, the point being moved by means of a lever in the handle, like the key of a flute. By means of this modification, the centre lens, or a portion of its capsule, or false membranes, may be readily removed from the field of the pupil. It may be introduced quite straight into the eye; and, when arrived in front of the cataract, may be placed at any angle which the operator may desire, and is susceptible of alternate extension and flexion, according to the object which it is proposed to attain. The motion of the point resembles that of the third phalanx of the fingers; and it would be very easy to make an instrument with two joints, which, however, M. Langier has not yet found necessary. With a single joint, the movements of flexion and extension of the point may be subservient to a number of purposes, such as in breaking up the cataract, tearing through its adhesions, and even forming artificial pupil, either by tearing down adhesions, or by detachment of the iris.

M. Langier has also combined with the jointed needle a concealed cornea knife, by which he believes that the section of the cornea will be made more surely than with the scissors of Richter or others. This keratome, at the end of which is the articulated point, is a little larger than the ordinary needle. It is much like a lithotome with a single blade; but the blade is

not contained in a sheath, which would uselessly increase the size of the instrument, but it is merely applied to another blade, with blunt edges, which cover it, and which contain the spring for moving the point of the needle.

In operating, a large opening may be made in the capsule by the point of the needle, which is directed towards it through the dilated pupil. It will then penetrate the lens, and bring it, either by the movements which may be communicated to it, or by simple pressure above or below, into the anterior chamber. In withdrawing the instrument by the passage by which it has entered, the blade of the keratome separates from the flat stem on which it lies, and incises the cornea, for a fourth or third, at most, of its diameter. This incision is long enough in most cases. One advantage of the concealed cornea knife, M. Langier states to be that of incising the cornea from within outwards, so that the deep layers of the membrane are cut to the same extent on the superficial.

In the wood-cuts which accompany the description, the motion of the keratome is represented as being regulated by a ring in the handle of the instrument.

CASE OF ACUTE GLANDERS DEVELOPED SPONTANEOUSLY IN A FEMALE. BY DR. TESSIER.

This case, which came under DR. TESSIER's care in the Hôtel Dieu at Lyons, is, he believes, the only one of the kind which has been recorded with exactness. If there is no fallacy, it tends to militate against the common opinion, that glanders in the human subject is always the result of contagion.

CASE. On June 8th, 1852, a woman, named A. J., aged 47, was brought to the Hôtel Dieu at Lyons. She was married; worked in silk, and was only employed on black satins. Her lodging and food were healthy and sufficient. She had led a very sedentary life. From inquiries made with the greatest care of her and those about her, it appeared that she had not been in contact with horses, had had no transactions with coachmen, grooms, or cavalry soldiers, and had touched no object which could have been charged with the virus of glanders. There was a butcher's shop in her house, but not a slaughter-house; good meat alone was sold there.

In 1849, she had syphilis; a bubo appeared in the right groin, which suppurated and healed after two months.

On May 30th, being exposed to a draught of air while her body was covered with sweat, she experienced a feeling of intense chill, which lasted four days, and was accompanied with debility, headache, anorexia, and pains in the joints. On the fourth day, when reaction was established, there appeared, on the middle of the front of the right leg, a white pustule, surrounded by a red areola.

On the fifth day, the dorsal surface of each foot was covered with oedematous erysipelas; and on the aspect of extension of the four limbs, there suddenly appeared tumours, with or without discolouration of the skin, consisting of more or less painful hard nodosities. On the succeeding days, the symptoms continued; an abscess formed under the pustule in the right leg, and was opened on the day before the admission of the patient into hospital.

On admission, her state was as follows: Countenance anxious; skin hot; pulse quick; tongue whitish and dry: she had headache, and general pain; much thirst: she answered questions with some difficulty. She was much agitated; and complained of not being able to sleep, or rather that her sleep was broken by painful startings. The legs were oedematous, and presented diffused erythematous patches on their anterior part, and on the dorsal surface of the feet. She could not bear the least pressure on the great and second toes of the left foot. Eight or ten tumours or nodosities, some tender, with or without inflammation of the skin, others fluctuating, and evidently formed

by abscesses, existed on both upper and lower limbs. A sanious pus escaped from the abscess in the leg; two pustules resembling ecthyma were observed, one on the styloid process of the right ulna, and the other on the summit of an abscess on the thigh. She was ordered to have diaphoretic ptisan, a calumative mixture, ointment, and a poultice to the abscess.

Up to June 14th, the symptoms went on increasing; and she was ordered to take tincture of aconite, and to have the sores dressed with powder of cinchona and charcoal. Under this treatment, gangrene of the leg, which had set in, was arrested. At this time, there appeared two new pustules, like those of variola at the stage of suppuration, and an abscess with violet coloured skin, over the left malar bone. Up to this time, Dr. Tessier had treated the case as one of fever, with a tendency to the formation of abscesses and to erysipelas; but the appearance of the varioloid pustules on the face, led him to suspect that the case had some resemblance to one of glanders. As, however, there was as yet no purulent discharge from the nostrils, he did not arrive at any conclusion.

On June 16 and 17, the varioloid pustules increased in number. The face expressed stupor, the tongue was dry, the abdomen in a state of meteorismus. M. Lecoq, director of the Veterinary School, examined the patient, but could not decide whether she had glanders. The abscesses and pustules increased in number; there was extreme prostration, with subsultus tendinum, and some petechiæ on the thorax.

On June 20, there appeared erysipelas on the face, below the internal angle of the eyebrows: it spread rapidly, and on the next day assumed a blackish tint, and became covered with phlyctenæ. The pustules and abscesses became more and more numerous. The pulse was 130; the tongue appeared as if roasted, and some small blackish crusts were observed in the interior of the nares, but there was no discharge.

On June 21, diarrhœa set in, and phlyctenæ appeared on some of the abscesses on the limbs; and the patient died in the morning of the 22nd.

POST-MORTEM EXAMINATION, twenty-four hours after death.

EXTERIOR. There were six or seven bullæ on the limbs, containing a sero-purulent liquid, and two gangrenous phlyctenæ, one at the root of the nose, the other on an abscess in the thigh. There were twenty-nine opaque pustules, resembling those of small-pox at the period of suppuration, but without the central depression. Traces of erysipelas were only seen in the face. Where it had been present on the feet and hands, thick pus was found beneath the skin. There were twenty-seven abscesses, two of which were gangrenous. Some were subcutaneous: others were deeper seated among the muscles; while some were within the joints. Pus was found in both knees and elbows, and in some of the joints of the toes. The pus was generally thick, unhealthy, and mixed with grumous clots. In some of the abscesses, it was sanious.

INTERIOR. The brain was healthy; there was slight arborescent injection of the arachnoid. The sinuses of the dura mater were filled with dark blood.

In the nasal fossæ, the mucous membrane was thick, softened, of a very deep red, and was easily detached from the bones. It was infiltrated with a sanguinolent serosity through nearly its whole extent. At some points, it presented granular erosions, infiltrated with pus (an essential character of glanders). The turbinate bones were of a blackish aspect: they were filled with sanguinolent and purulent mucosity; so that, if the patient had lived two or three days longer, there would have been a discharge from the nostrils. The mucous membrane of the fauces presented the same appearances as the pituitary membrane, but in a less degree.

There was no abscess in the lungs; but they were infiltrated with dark blood, and the left lung presented, especially posteriorly, marked lobular engorgement. The heart was healthy; as were also the liver, spleen, pancreas, and kidneys. The sexual organs presented no trace of syphilis.

In the stomach, there was an ecchymotic patch of the size of a five-franc piece; and the mucous membrane here was softened. Throughout the intestines, there were only some red arborescent patches of cadaveric injection. Peyer's and Brunner's glands were healthy. The absence of pathological changes in the intestines is one of the most important points in the anatomical history of glanders.

The lymphatic glands were not visibly engorged.

On seeing these appearances, M. Lecoq, of the Veterinary School, who was present, did not hesitate to affirm that, if he saw similar appearances in a horse, he should consider the case one of acute glanders.

One proof, however, was required—that of inoculation. Some pus, taken during life from an abscess, was introduced into a lean but healthy horse; and, in ten days, the horse died of all the symptoms of acute glanders. On *post-mortem* examination, the characteristic appearances were found on the pituitary membrane.

NEW METHOD OF PERFORMING TRACHEOTOMY. BY DR. C. GERSON.

For the performance of tracheotomy, Dr. GERSON has contrived an instrument consisting of three moveable branches, which join at the end, so as to form a sharp point, and can be separated by means of a vice at the other extremity of the cone. By turning the vice from left to right, the branches diverge and form a cone, of which the base is turned towards the wound, and which thus resists the tendency of the cartilages to expel it from the aperture.

In operating, an incision of two or three *centimètres* (four-fifths of an inch to one and one-fifth) is made through the skin, the veins are put aside, and the incision, gradually diminishing in length, is continued until the space between two of the cartilaginous rings can be distinctly felt with the nail of the fore-finger. The trachea is then fixed; and the instrument is glided along the nail of the left fore-finger, and is made to penetrate into the space between the rings for about three or four *millimètres* (about one-seventh or one-ninth of an inch). An expansion about a quarter of an inch from the point, prevents the instrument from penetrating too deeply. The instrument being held steadily, the handle of the vice is now turned, and the branches of the instrument caused to diverge. When the opening is sufficiently wide to allow the canula to pass between the branches of the instrument, it is introduced into the trachea. The loss of blood is inconsiderable; and the air escapes with so much force, that it would expel every drop which might be inclined to enter the bronchi.

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APRIL, MAY, JUNE, JULY, AND AUGUST 1852.

1. ON UTERINE HÆMORRHAGE. By GEORGE KING, Esq. March 31.
2. CASE OF STRANGULATION OF THREE FEET OF THE JEJUNUM, BY A RENT IN THE MESENTERY, Presenting no Symptom of Disease for several hours, and then Terminating very Rapidly. By CHARLES BAILEY, Esq. April 14.
3. CASES OF DIFFICULT PARTURITION. By EDWIN BISHOP, Esq. April 28.
4. EFFECTS OF IODINE ON THE MAMMÆ. By J. M. BRYAN, Esq. April 28.
5. CASE OF LARGE SINGLE OVARIAN CYST, TREATED SUCCESSFULLY BY OPERATION. By D. H. GABB, Esq. May 26.
6. REMARKS ON SOME POINTS CONNECTED WITH LITHOTOMY. By ABRAHAM WOOD, Esq. May 26.
7. THE LIFE OF THE BLOOD, AS VIEWED IN THE LIGHT OF POPULAR BELIEF. By S. T. SPEER, M.D. May 26 and June 23.

- 8.*TREATMENT OF CURABLE DISEASES. By W. S. OKE, M.D. June 9, July 7.
9. DIAGNOSIS OF CHRONIC OVARIAN TUMOURS. By E. J. TILT, M.D. June 23, August 18.
- 10.*REMARKS ON THE TREATMENT OF BURNS AND SCALDS. By W. J. MOORE, Esq. June 23 and July 7.
11. CASE OF LOOSE CARTILAGES IN THE KNEE-JOINT. By T. T. GRIFFITH, Esq. June 23.
12. CASE OF WOUND OF THE HEART BY A NEEDLE. By FLOYD PECK, Esq. July 7.
13. TWO CASES OF VITILIGOIDEA. By W. FOSTER, Esq. July 7.
- 14.*ON A VARIETY OF LATENT PNEUMONIA. By C. M. DURRANT, Esq. July 7.
15. ON THE TREATMENT OF Erysipelas BY THE MURIATED TINCTURE OF IRON. By W. H. RANKING, M.D. July 21.
16. CASE OF PUERPERAL CONVULSIONS. By ROBERT MARTIN, Esq. July 21.
17. CASE OF HAY-FEVER. By W. K. KIRKMAN, Esq. July 21.
18. TREATMENT OF THE SUPPURATIVE STAGE OF BURNS BY UNGUENTUM GALLÆ. By A. BEARDSLEY, Esq. July 21.
19. CINCHONISM IN TYPHUS: NOTES OF TWO CASES OF CONTINUED FEVER. By ROBERT DUNDAS, M.D. July 21.
20. CASE OF INVERSIO UTERI. By CHARLES MARSHALL, Esq. August 18.
21. CASE OF CALCULARY DEPOSITS IN THE EXCRETORY DUCTS OF THE SUB-LINGUAL GLANDS. By ROBERT MARTIN, Esq. August 18.
22. SEVERE INJURY OF THE KNEE-JOINT. By R. MARTIN, Esq. Aug. 18.

NOTES ON THE TREATMENT OF CURABLE DISEASES.

BY W. S. OKE, M.D.

OBSTRUCTION OF THE INTESTINAL TUBE may be caused, 1, by inflammation; 2, by spasmodic action; 3, by over-distension; 4, by incarceration; 5, by impassable bodies; 6, by organic disease.

1. INFLAMMATION. Obstruction of the intestinal canal may be caused by inflammation of the peritoneal or muscular coats: inflammation of the mucous membrane, on the other hand, tends to increase peristaltic action, and produce mucous diarrhœa.

"The exciting causes of idiopathic enteritis are damp and cold, intemperance, constipation, acrid secretions, etc.; and the predisposition to this disease is greatly increased by functional disorder of the liver, either exposing the alimentary canal to the effect of acrid secretions, or interrupting the hepatic circulation, so as to produce a congested state of the portal veins, and consequently of the intestinal capillaries. The part most liable to inflammation is the termination of the ileum, situated in the right iliac region. The following are the symptoms:—Severe griping pain, which is constant, although it may vary in degree, and may be acute also, if the peritoneal coat be much involved; more or less tension of the abdomen, which is intolerant of the slightest pressure; constipation and vomiting. Sometimes also there will be a local thickening of the parietes over the seat of the disease, from the deposit of plastic lymph upon the peritoneum. The pyrexia will be of the middle kind, tending to asthenia; the tongue furred, and often somewhat brown along its centre; and the pulse will be small, hard, and 120 in the minute.

"Should the disease be inadequately treated in its incipient stage, the obstruction will soon become more complete, with an aggravation of all the symptoms; and this, in so delicate a structure as that of the intestinal canal, is soon followed by the loss of its vitality, indicated by cessation of pain, subsidence of the abdominal tension, a sunken aspect, imperceptible pulse, and a coldness of the extremities. On the other hand, the disease will often yield to early and judicious treatment. Blood should be at once taken from the arm, to the amount of twelve or fourteen ounces. We are not to be

dissuaded from the use of the lancet by the smallness of the pulse; and if it should rise after bleeding, and the pain remain undiminished, the venesection ought to be repeated. At the same time, caution will be required not to take away so large a quantity of blood as shall cripple the reparative power; and if a second bleeding be deemed inadmissible, the seat of pain is to be covered with leeches, and their bites encouraged to bleed by hot stupes of scalded bran in flannel bags, which may be kept afterwards applied as a fomentation. In this stage medicine also will be found of the greatest use in removing the cause of obstruction. Five grains of calomel and one of powdered opium, in the form of a pill, are to be given at once, and, at intervals of two hours, a pill containing two grains of calomel and half a grain of opium is to be repeated till the pain and vomiting have subsided. Then, and not till then, we may venture to give two or three doses of either of the following mild aperients (1 and 2) every four hours, till the bowels are acted upon:—

“1. *℞ Olei ricini opt., aquæ cinnam., aquæ pluvialis, sing. dr. iij; tincturæ digitalis, m. xv.; misturæ acaciæ q.s. ad bene miscendum. Fiat haustus quartis horis sumendus donec operaverit.*

“2. *℞ Magnesiæ sulph., dr. iij; tincturæ digitalis, m. xv; syrupi zingiberis, dr. j; aquæ menthæ pip., dr. ix. Misce. Fiat haustus eodem modo sumendus.*

“The digitalis is added as a relaxant; and I have known it to conduce greatly to the effect of an aperient. But should these medicines be rejected after two or three doses, they must be discontinued, and the calomel pill (3) steadily persisted in till the bowels are relieved. If ptyalism be produced, success will be almost certain.

“3. *℞ Hydrarg. chloridi, gr. ij; pulv. opii, gr. 1-6th; confect. rosæ, q.s. Misce. Fiat pilula secundâ quâque horâ sumenda.*

“2. SPASMODIC ACTION. In this case it would appear that there must be an excess of one of the forces of the vermicular action; for if the circular and longitudinal fibres were equally involved, the result would be, increased propulsion, and not obstruction; but, on the other hand, when the nice balance between these forces is disturbed, and one of them is in excess, then the vermicular action must be arrested, and obstruction be the result.

“Amongst the causes of this kind of obstruction are, saturnine poison, crude indigestible food, such as shell-fish, uncooked food, acrid secretions, etc.

“The severity of the spasm will depend, in great measure, upon the degree of disproportion which exists between the two forces of the vermicular action, and the saturnine poison appears to be capable of producing this disproportion in the greatest degree.

“The symptoms are, vehement paroxysms of twisting pain about the umbilicus, obstinate constipation, vomiting of a green bilious fluid, and retraction of the abdomen towards the spine. The patient is often found in a bent position, pressing the seat of pain with his hands, to mitigate its severity. The tongue is not much furred, the temperature of the skin normal, and the pulse is generally under 100 in the minute.

“Painters are frequently suffering from this kind of obstruction, from their being constantly employed in the use of the carbonate of lead; hence it has been called ‘colica pictorum’.

“This disease, so long as it does not exceed the limit of spasmodic action, generally terminates favourably; but if it should have assumed the character of inflammation, then the prognosis will be governed by such an aggravation.

“The indications of cure are: 1, to relax spasm; 2, to restore the normal peristaltic action. The first will best be fulfilled by a full bleeding, opium, and the warm bath. The second by purgatives. Fourteen or sixteen ounces of blood should be immediately taken from the system, followed by a pill, containing two grains of opium; and, if the continuance of the spasm render it necessary, one grain is to be repeated every three or four hours. This

treatment will usually succeed in subduing the pain and vomiting, and sometimes act as an aperient also; but if it should fail of the latter effect, the pill (1) is to be taken every hour till the bowels are acted upon.

"1. *R. Hydrargyri chloridi, gr. j; extr. coloc. comp., gr. iv; olei caryoph. q. s. Misce fiat pilula omni horâ sumenda donec operaverit.*

"The warm bath may be used at this period, the temperature 100°, and the patient be immersed twenty minutes, taking care that the temperature be not diminished."

DR. OKE has found that, in many cases, symptoms of saturnine poisoning are to be referred to the water habitually drunk by the patients, and in which he has detected lead by bichromate of potass. The blue line along the margin of the gums, first pointed out by Dr. Burton, he considers to be of high diagnostic value, and to give early information of the absorption of carbonate of lead into the system.

"When, from other exciting causes, there is produced a less amount of disproportion in the vermicular forces, although enough to obstruct the bowel, there is a manifest difference in many of the symptoms. Instead of a retraction, there may be a fulness of the abdomen. The pain is more of a persistent, aching character, than returning in vehement paroxysms; and there is less vomiting, indeed sometimes there is none at all.

"The curative indication in this case is much the same as in the last—viz., to subdue the action in excess, and to restore the normal vermicular function of the intestine. If purgatives have failed, they ought not to be persisted in, as they will rather increase the spasmodic action than remove the obstruction. Blood should be taken from the system, and by leeches from the rectum. Opium and calomel are to be given in such doses, and at such intervals, as the degree of pain may require; and this kind of colic will generally be governed by more moderate doses of opium than those prescribed for the 'colica pictorum.' It will be sufficient to commence with one grain of opium, and three of calomel, and this dose may be repeated in an hour, if it should have given no relief, after which it may suffice to give two grains of calomel, and half a grain of opium, every two or three hours, till the pain has ceased. In this case, also, these means will sometimes act as a purgative.

"If, however, the bowels should remain inactive, they may be gently solicited; and it will be far better to do this by emollient glysters than by purgative medicines, as by the latter there will be the risk of bringing back the vomiting, and aggravating the spasmodic pain.

"Disorders of the hepatic function are often the predisposing cause of this kind of intestinal obstruction also; and when overcome, the fecal discharges are sometimes observed to be of the colour of tar; but this appearance does not represent what has been termed *melæna*. The difference is this, that in the former the base of the colour is bile, in the latter blood.

"During the period of convalescence it is of great importance to make choice of mild unirritating aperients, avoiding all drastic purgatives. The best will probably be Nos. 1, 2, 3, or 4.

"1. *R. Olei ricini opt.; aquæ cinnamoni, utrq., dr. i.; syrapi zingiberis, dr. j.; aquæ destillatæ, oz. ss. Misturæ acaciæ q. s. ad bene miscendum. Fiat haustus mane pro re natâ sumendus.*

"2. *R. Mag. sulph., dr. ij.; tincturæ hyoseyami, m. x.; tincturæ card. comp.; syrapi zingiberis, utrq., dr. j.; pulv. tragac. comp., scr. j.; aquæ anethi ad oz. iss. Misce. Fiat haustus.*

"3. *R. Pilulæ hydrarg., gr. iij.; extracti jalapæ aquos., gr. v. Divide in pil. ij. omni alternâ nocte sumendas.*

"4. *R. Hydrargyri cum cretâ, gr. iij.; pulv. rad. rhei, gr. v.; syr. q. s. Misce et divide in pilulas duas pro re natâ sumendas.*

"But when the obstruction has been caused by the poison of lead, the dilute sulphuric acid is to be combined with the aperient, as recommended by

Liebig, with the view of converting the soluble salt of lead, that is acting as a poison in the system, into the sulphate, which is insoluble, and therefore harmless. I have found No. 5 very beneficial in patients suffering from the secondary effects of saturnine poison.

"5. \mathcal{R} Magnesiae sulph. oz. ss; acidi sulph. dil. dr. j; syrupi zingiberis, tinct. cinnamomi co., utrque oz. ss; tinct. hyoscyami dr. j; aquae pimento, oz. iv. Misce; cap. quartam partem omni mane et meridie."

"3. OVER-DISTENSION. Obstruction from overdistension may be caused by large evolutions of gas or by faecal accumulation; but although the former may occasionally obstruct the bowel, *per se*, by inflating it beyond the power of contraction, such inflations are more commonly the effect rather than the cause of the obstruction, as will be hereafter shewn under another head; the latter, therefore, will be principally considered in this place.

"Obstruction occasioned by faecal accumulation generally occurs in some part of the large bowel, and it is probably produced in this manner. The patient, from sedentary habits and a torpid state of the hepatic function, becomes costive, and every day or every other day has a dry insufficient stool. This goes on for some time; but as he is free from pain, does not feel ill, and has his usual appetite, he takes no particular notice of this state of his bowels, and does not deem it necessary to have recourse to any aperient, till at length, from the gradual accumulation of the faeces in the colon, he can pass no stool at all, and is seized with pain, vomiting, and all the symptoms of intestinal obstruction.

"The diagnosis in this case will become sufficiently plain from its history; and by tracing carefully the course of the large bowel from the rectum to the caecum caput coli, we shall rarely fail to detect at what part of the canal the accumulation has taken place, where there will be fulness, tenderness, and dulness under percussion; but sometimes, doubtless, the diagnosis may be in some measure obscured by the inflation of the bowel.

"The treatment of intestinal obstruction from this cause has to be conducted upon principles directly opposite to those indicated in the former. There the indication was to relax spasmodic action: here it is to excite the action of the bowel.

"When we have, by a careful examination of the symptoms, put ourselves in possession of the true nature of the case, it will be at first far better to endeavour to act upon the bowel through the rectum than the oesophagus. A good-sized, smooth, elastic tube, and well oiled, is to be gently carried up into the sigmoid flexure, as recommended by O'Beirn, and through it a copious enema of yellow soap and water, is to be pumped into the colon, when the tube is to be withdrawn. It is necessary to use a full-sized tube, with a smooth bulbous end, which I would advise every general practitioner to keep ready for such a purpose. It will pass up the winding curve of the canal much more readily than a small one, and be less likely to perforate or damage the bowel.

"Sometimes our proceedings are stopped *in limine* by the rectum being stuffed with hard masses of faecal matter. If so, they must be removed by some convenient instrument, till room be made for the tube to pass. A few hours after the colon has been injected in the manner above recommended, a purgative is to be given, and its kind must be governed by circumstances. If there is reason to think that the obstruction has been washed away, it will be sufficient to give four grains of the watery extract of aloes and three of calomel, in two pills every four hours, till they act; if not, the croton oil will be the best purgative, of which one or two drops may be given in sugar or honey every two hours. If these means should fail to restore the action of the bowels, electricity and the sudden application of very cold water to the surface of the abdomen have been recommended. Of the former I cannot adduce any evidence from my own experience, although it would appear to be a most valuable remedy. The latter I have known to succeed.

"4. INCARCERATION. Obstruction of the intestinal tube may be caused by incarceration—1st, when a portion of bowel is forced out of the abdomen through one of the hernial openings; 2nd, when it is strangulated within the cavity of the abdomen by bands of fibrinous lymph, by the mesentery or the appendix vermiformis cæci, etc.: 3rd, when it incarcerates itself by invagination. The two last will be alluded to in this place. The symptoms of internal incarceration are, in fact, those of strangulated hernia, except that the external physical signs are wanting. The patient, having been previously in good health, is suddenly seized with severe pain in some part of the belly, which is almost immediately followed by vomiting. From a conscious feeling that something serious has taken place within him, he is at once prostrated by alarm and anxiety. Various medicines are given, in the hope of relieving the pain by acting upon the bowels; but these all return—nothing passes; the pain is unabated, and the vomiting continues and increases till it becomes stercoraceous; in short, the case becomes what is commonly called ileus or iliac passion; a term which has not the slightest reference to the cause of the disease.

"In the treatment of obstruction from this accident, bleeding to syncope, morphia, the warm bath, distending the colon with copious injections—each containing five grains of the extract of belladonna, and mercury to salivation—are all clearly indicated to relax the grasp that has strangulated the intestine. If these means fail, gangrene and death will soon release the sufferer from his agonies. But the fatal issue of such a case does not arise from any impracticability, or even difficulty, of cure; for it may be truly asserted, that if we could accurately diagnose this accident soon after its occurrence, a considerable number of those who perish might be saved, by cutting through the parietes of the abdomen, and dividing the stricture. I shall, therefore, mention some diagnostic signs which would indicate internal strangulation:

"1. Previous good health up to the occurrence of the accident. 2. Instantaneous and severe pain within the abdomen, caused either by sudden exertion, external violence, or otherwise. 3. Vomiting immediately following such a sensation. 4. Liability to hernia, although there be no existing protrusion discoverable.

"These signs would, I think, be sufficiently conclusive in proof of internal displacement to warrant an abdominal exploration after all the ordinary means had failed. To show the value of the second diagnostic sign, there is a case recorded by Mr. Charles Bailey, of Chippenham, in the *Provincial Medical and Surgical Journal* of April 14th, 1852, in which a young man, aged 25, by falling over some large stones, occasioned a rent in the mesentery, through which three feet of the jejunum were found to have been forced and strangulated. Death was caused by mortification of the incarcerated bowel.

"There does not appear to be a much greater risk in laying open the cavity of the abdomen, to set free an incarcerated bowel within it, than in the operation for a strangulated scrotal hernia of an average size. The division of the integuments, of the peritoneum, and of the stricture, are nearly of the same extent; and yet it is remarkable how few cases of the former operation are found recorded, compared with the number of internal incarcerations that must have taken place.

"When the patient has been subject to inguinal hernia, lest the obstruction might be caused by a small portion of the circumference of the bowel being grasped by the internal ring, it will be right to try to disentangle it by gravitation before any operation is performed. The attempt may be made in the following manner: The knees of the patient are to be lifted up and flexed over the shoulders of a strong assistant; and in this position the trunk is to be suspended for some minutes, during which it may be suddenly elevated by the assistant three or four times.

"It must, however, be confessed that we shall not often have distinct dia-

nostic signs of internal incarceration ; and that from want of these, and from the failure of other remedies, we shall be under the necessity of relying almost entirely on the *vis medicatrix nature* to effect some favourable change ; and fortunately once now and then such a change is effected.

"In the *Provincial Medical and Surgical Journal* of March 17th and 31st of the present year, two interesting cases of recovery from supposed internal strangulation are recorded ; the first by Mr. John Soden, of Bath, after thirteen days' constipation ; the second by Dr. Barclay, of the Leicester Infirmary, after an obstruction of eight days, both of which appear to have recovered by the reparative powers of the constitution.

"When a portion of intestine has incarcerated itself by invagination, it may be explained by there being an inequality of peristaltic power between different portions of the tube ; thus if the normal vermicular action of one portion cannot be continued along another, from its being incapable of maintaining the same degree of action, the stronger portion forces itself within the weaker, and at once doubles the parietes of the intestine ; and this doubling process goes on contracting more and more the diameter of the intestinal tube till it becomes choked and impervious.

"It appears that children are more liable to intussusception than adults. In a child of three years old, who died of intestinal obstruction, I found three portions of the small intestines which were invaginated. There are, I believe, no diagnostic signs that can be depended upon to indicate the occurrence of this accident, except that if by a careful manipulation of the abdomen soon after it is presumed to have taken place, any local hardness can be detected in the course of the intestinal canal, such hardness may be fairly imputed to intussusception, and dealt with accordingly. An early operation to disentagle the invaginated bowel is the only possible means of saving the life of the patient that the medical man can suggest ; if this proposal be rejected, death will be the result. It is true that a very few cases are recorded (and two in the second volume of 'Transactions' of a Society for the Improvement of Medical and Chirurgical Knowledge, by Dr. Baillie,) where the mortified portion of the gut was separated, and was passed through the rectum ; but these are the barest exceptions to the fatality of the rule."

5. IMPASSABLE BODIES. "Intestinal obstructions may be caused by impassable bodies, either individually or collectively. By the former, when an indigestible substance is too large to pass the narrow parts of the tube ; and by the latter, when a large quantity of crude substances having been swallowed, collect together in some part of the intestinal canal and block up the passage. As there is one part of the tube—the ilio-cæcal valve—which is perhaps more liable to this cause of obstruction than any other, I will briefly describe its construction. It is round where the bowel ileum terminates in the sac of the cæcum, commonly called the 'cæcum caput coli.' This is not an imaginary but a well-defined termination of the alimentary into the excrementitious intestine. The ileum passes obliquely up on the internal or left aspect of the cæcum, and, having reached the upper part of the sac, empties its contents into it. The valvular opening is elliptoid, and about an inch and a half long from point to point. It is formed by two membranes—a superior and an inferior. The superior membrane is of a crescentic shape, about three quarters of an inch in breadth over the centre of the aperture, and with its cornua extends transversely across half the circumference of the cæcum, forming the boundary of the upper part of the sac. The inferior membrane completes the aperture of the valve by a short semilunar margin, the cornua of which are attached to the superior membrane under and a little behind its crescentic margin, consequently the superior membrane of the valve lies over the termination of the ileum. The use of this valve is obvious. It allows an easy passage of the fecal fluid from the small into the large intestine, and prevents its being impeded by the gravitation of the

contents of the ascending colon. The inferior membrane, which is in fact the terminating boundary of the ileum, allows of the former, whilst the superior membrane, acting as a kind of roof over the opening when the cœcum is distended, effects the latter.

"The symptoms of this case are characterised by great severity. The pain well deserves the term '*dolor atrox*', and forces the sufferer to vociferate with agony. The severity of the pain may be explained by the sensitive villous coat being compressed from within by an impacted body, and from without by the vehement action of the muscular fibres in their instinctive efforts to propel it along the canal. The vomiting is incessant, and eventually stercoraceous. The abdomen is more or less inflated and tender over the seat of the obstruction; and any movement of the trunk tends to aggravate the pain.

"If any crude matter has been swallowed that could account for the obstruction, the diagnosis would be easy enough; but it often happens that the obstructing body is furnished by the morbid action of the internal functions in the form of concretions, and then the diagnosis becomes exceedingly difficult. There is one symptom only, that I am aware of, which can be relied upon, and it is this:—If the symptoms of obstruction above described should suddenly cease, and be followed by liquid stools, and the pain afterwards return with renewed aggravations in another spot, we may be assured the obstruction has been occasioned by a large concretion, which has shifted its place.

"In the treatment of intestinal obstruction from the lodgment of indigestible or extraneous bodies, all will of course depend upon whether the smallest diameter of the obstructing cause be less or greater than the smallest diameter of the intestinal canal through which it has to pass. If the former, some hope may be entertained from large doses of morphia—say a grain of the acetate once in two hours—a full bleeding, the warm bath, and a belladonna plaster over the seat of pain, and repeated copious injections; but if the latter, no cure can be effected by any such means, because it is simply an impossibility. There only remains the '*anceps remedium*' of laying open the bowel and ridding it of its death-plug. And why should not this be done? There is no difficulty in the operation if there be courage to perform it. The surgeon does not hesitate to invade the trachea with the knife, and abstract any foreign body that is threatening life by obstructing the respiratory canal; nor to divide the uterine parietes to extract a fœtus that is too large to pass through a narrow pelvis; nor to pierce the colon in stricture of the large intestine. Why then should we hesitate to open the intestinal canal in a case of this kind, to extract obstructing bodies which are sure to destroy life? If we had ventured to perform such an operation in the cases above stated, it is possible that one or both of the sufferers might have been living at this time. When there is the certainty of death in the one scale, and the possibility of life by an operation in the other, there can be no difficulty in the choice; and although it is admitted to be the '*anceps remedium*', it is nevertheless the '*melius quàm nullum*'.

"It was formerly the practice to administer several ounces of quicksilver to remove obstructions of the intestinal canal, and sometimes it was followed by apparent success; but the practice was absurd and dangerous.

"6. ORGANIC DISEASE. Organic disease, especially when situated in the cavity of the pelvis, may cause a total obstruction of the intestinal canal simply by external pressure, an instance of which I have lately seen terminate fatally in this town, independent of any disease of the bowel; but it more commonly obstructs the canal by involving the bowel in its morbid action. The latter cause is that which will be treated under this head.

"Organic stricture is generally met with in the large intestine, and more frequently in the sigmoid flexure of the colon and in the rectum. I have but seldom seen it occur in the small intestine between the pylorus and the

termination of the ileum. It is always eventually fatal ; for although a patient may survive a few attacks of obstruction, he is sure of being destroyed by the disease, as the canal becomes either blocked up by it or perforated. The symptoms are much the same as in other intestinal obstructions, except that the pain is comparatively less spasmodic, and that, if the stricture be situated low down in the colon or in the rectum, the abdomen becomes inflated to an enormous extent, indeed I have so frequently seen extreme tympany in these cases, as to consider it almost diagnostic of this disease.

"In some instances, before the first obstruction takes place, there is a sickly aspect and an occasional feeling of illness ; whilst in others the general health is unimpaired, so that the patient is not all aware that so serious a disease exists within him. When this disease is situated in the excrementitious part of the intestinal canal, it does not much atrophise the body ; but on the other hand, when it involves the alimentary portion, there is great emaciation, as we find in disease of the œsophagus, the pylorus, or of the small intestine.

"By an attentive examination of the symptoms, the diagnosis in intestinal obstruction from morbid stricture will not be difficult. The rectum should always be explored, either by the finger or a bougie, and if there, the disease will at once be discovered. If the rectum be found free, then, if the aspect of the patient have been for some time sallow and sickly,—if there be want of nutrition and wasting,—if the abdomen has been occasionally affected with darting pains, and be resonant under percussion,—if the stools have been previously relaxed, unhealthy in appearance, and mixed with blood and mucus,—and, in addition to these signs, if there have been previous obstruction, an organic stricture is clearly indicated.

"In the treatment of this case, all harsh measures are to be carefully avoided ; and with a view to overcome any spasmodic or inflammatory action which the irritation of the stricture might have induced, it will be right to give half a grain of opium, and two grains of calomel, every two hours, whilst the pain remains, after which the draught (1) should be given every three hours till the bowels are acted upon :—

"1. *R. Magnesiae sulphatis, mannae optimaë, utrque dr. ij. : misturæ amygdalæ dr. x. Misce, fiat haustus.*

"If there be no action from these means in four or six hours, it will then be necessary to throw up into the sigmoid flexure, once in four hours, a copious glyster of warm water, with four grains of the extract of belladonna, in the hope of dilating the constriction sufficiently to let the fecal discharge pass through it.

"This treatment may succeed once or twice ; but eventually, as the intestinal canal is more and more filled up by the morbid growth, all remedies of this kind must fail. To save life under such imminent danger, M. Amussat, a French surgeon, in 1839, introduced the practice of perforating the colon above the stricture at some point where the wounding the peritoneum could be avoided, *i.e.*, through the lumbar region. This operation since that period has been performed many times by English surgeons, and sometimes also through the peritoneum ; and it is probable that the latter has been occasionally preferred on account of the difficulty of maintaining an artificial anus through the depth of the lumbar muscles.

"At a recent meeting of the Royal Medico-Chirurgical Society, Mr. Cæsar Hawkins read an important paper on this subject ; and, having related a successful case in his own practice, he brought forward tables showing the results of this operation, in various points of view, which occurred in 44 cases. In one of these tables it appears, that of 43 cases 21 had died within the first five weeks, and of these that ten had died within forty-eight hours ; that 22 only could be fairly stated to have recovered from the operation, that of the 22 six had died in about six months from the time of the operation, and that only nine patients were at present known who had survived it

more than one year, one of whom (Mr. Clement's case) lived three years, and another (Mr. Maitland's) lived seventeen years.

"This statement is certainly discouraging ; but when neither scirrhus nor carcinoma is *known* to characterise the stricture, when the obstruction is in the large intestine, and when the constitution does not appear to be much exhausted, the operation is justifiable, and if it can be performed without wounding the peritoneum, there will be a greater probability of success.

"The constitution appears to sanction this mode of proceeding by sometimes taking the same course."

ON THE TREATMENT OF BURNS AND SCALDS.

BY W. J. MOORE, ESQ.

TREATMENT OF SUPPURATIVE STAGE OF BURNS BY UNGUENTUM
GALLÆ. BY A. BEARDSLEY, ESQ.

MR. MOORE was led, about three years ago, to use creasote as an application in burns and scalds, on the recommendation of Dr. Steward ; but experience has caused him since to limit its employment to one class of cases. He writes :

"Supposing a person to have burnt some part, say, for instance, the forearm and hands ; supposing the burn to have several blisters already formed, I should recommend, and have practised with great success, the following treatment :—Any vesicles present are to be first punctured, and the parts then dressed over with creasote oil by means of a feather or brush, and allowed to remain exposed a short time. This generally immediately relieves the pain, which perhaps may be due to the coagulation of the albumen in the serum thrown out by the creasote ; which fact is rendered apparent by the formation of a white film wherever the oil touches the abraded surface. It thus prevents the contact of the air. A minute or two having elapsed, the dressings should be repeated, and the whole parts (if the hands) enveloped in strips of linen, slightly oiled, with a bandage over all, for better security of the dressings. In such a case as the one supposed, the cure will be complete in two or three dressings ; and if the creasote oil is applied soon after the receipt of the burn, it will effectually prevent any large amount of vesication.

"I have recommended envelopment in oiled linen after the application of the creasote, on account of the situation of the parts supposed to be injured ; but the effect is equal, and in some cases more marked, when no other application whatever, excepting the creasote oil, is used. Should the leg be the part burned, and the patient be able to lie by for some time, I should not use anything except the creasote ; either preventing contact of the clothes by means of a cradle (if the patient, as is the case in a hospital, can be made to lie in bed), or otherwise by means of a sort of funnel, composed of cane hoops and linen, easily adapted round the limb. The application of the creasote should then be performed twice a day. The parts where there are no vesications are well at the second dressing, and the vesicated parts become covered with coagulated serum, which forms a scab, and makes the best protection which can by any possibility be devised. The cure is thereby rendered easy, painless, certain, and without smell, and the scab in a short time becomes detached from the newly-healed surface. I have treated large portions of the leg, thigh, and body in this way, the scabs formed gradually shelling off from the circumference inwards ; but of course it is always proper to prevent, if possible, the loss of the cuticle, which is very liable to be rubbed off during conveyance to a hospital, removal of clothes, etc. This treatment is peculiarly applicable to burns of the face, where there is difficulty in retaining any dressing. The oil, however, may easily be applied, the only care requisite being that it does not enter the eyes, as from its stimulating properties it would cause great pain, and

perhaps some degree of inflammation ; should this accident happen, it is best to bathe the eye immediately with a little water. Many persons have expressed to me their fears for the consequences of not covering the parts, otherwise than by the creasote, particularly when, as sometimes happens, the patient is obliged to go out into the open air immediately afterwards ; more covering, however, is not at all necessary. Burnt faces frequently are dressed and sent away exposed, and without any bad results. One case particularly intrudes itself into my recollection, which strongly illustrates this fact :—

“ A man applied during the winter of 1849, having his face burnt by an explosion of gunpowder. He was dressed with creasote, and taken into the ward ; he, however, would not stop, and starting off home walked a distance of upwards of four miles, there being at the time a high and bitterly cold wind. When he presented himself next morning, he stated he had felt no pain from the exposure, the film of coagulation having effectually acted as a preservative against the piercing blasts. He continued his visits to the hospital until cured, and was exposed in like manner every day.

“ I occasionally, however, treat burns in a different manner, but am regulated in my application by the character of the injury. A very good plan is to apply a thick solution of gum, allowing it to dry on the parts, which it speedily does, forming a kind of mail coat, which also acts effectually as a preservative from the atmosphere. This, when dry, cracks, and in a few days peels off, leaving the parts more or less healed. This is a very good mode of treatment when the smell of creasote is strongly objected to, which idiosyncrasy is sometimes met with.

“ Another very good application, and one which I can recommend, is an ointment, containing a proportion of hydrocyanic acid, or rather, more properly speaking, a liniment ; my application being composed of olive oil, hydrocyanic acid, and *fresh* lard. The value of the application evidently consists in the hydrocyanic acid allaying the pain, which it does to a great degree. Probably the virtue of the famous quack remedy—the laurel ointment—depends on the same cause.”

After commenting on other points, Mr. Moore says, in speaking of the treatment of contractions after burns :—

“ Some time ago, I had occasion to treat a case of very bad contraction following a burn, of which the following is a brief account. A lad, about twelve years old, had the misfortune to get severely burned about the back, left axilla, left arm, and side of the chest. In the course of time the wound had almost healed, but the arm remained nearly touching the side from the contractions which had taken place, and therefore motion was almost lost. Under these circumstances, screw splints and other contrivances of the kind were brought into requisition, but with little and only temporary benefit to the arm. One morning, while attending to the case, I was inducing him, as was my habit, to move the arm as much as possible, and to aid him in the attempt, applied my hand to raise the elbow from the side, exerting but a slight degree of force. That force, however, was sufficient to rupture much of the newly-formed material, and a gaping wound resulted, some five inches in extent, and passing horizontally round the chest, about two inches below the axilla. It was not in a line, but very zig-zag in direction, which, as afterwards proved, was a great means of procuring a better medium of union. The dressings were lint and water ; and presently, from the numerous promontories of integument spoken of, fresh skin began to form, so that, when it was again healed, there was very tolerable motion of the arm.

“ I have not had many opportunities of trying rupture of contracted parts ; but in one other case, where the contraction occurred in front of the elbow-joint, the same means were adopted, and with much success. Should I have cases of a like kind to treat, I should feel disposed to follow out the plan ; at the same time I would, for two or three obvious causes, limit its employment to recent cases. There also seems to be no reason why the same principle

should not guide the knife in cases of this description. Instead of dissecting the cicatrix, or dividing it, as is usually done, I would make incisions in different directions, and even leave small detached portions of integument, and thus imitate what occurs when the parts are ruptured by force. Each promontory or isolated portion of integument becomes as it were a spring, from which new matter is formed. This suggestion, however, requires to be practised, ere its efficacy can be fully established; and I probably shall practise it in a case now under my treatment, and give the results to the profession."

MR. BEARDSLEY has found the best treatment in the suppurative stage of burns to be an ointment made of a drachm of powdered galls to an ounce of lard. The formation of new skin takes place very rapidly. He prefers the galls, as a general rule, to tannin and gallic acid. If the galls are pure, the ointment is cooling and agreeable; and in every case, amounting to some hundreds, in which Mr. Beardsley has seen it applied, it has realised a happy result.

ON A VARIETY OF LATENT PNEUMONIA. BY C. M. DURRANT, M.D.

DR. DURRANT commences the detail of the symptoms of latent pneumonia by the recital of a case which has come under his notice.

"The patient, a middle-aged man, and a stranger to me, commenced the description of his sensations by saying—'Doctor, I am not well, and I cannot tell what ails me. I am not aware that I have taken cold; I have no cough, and no pain, but still I feel a sensation of weight in my side that reminds me continually that I have a side. These feelings of *malaise* (he continued) have been upon me for nearly three weeks.' Upon inquiring if his breathing were affected, he replied:—'Now you direct my attention to the circumstance, it certainly has been somewhat short at times, but I have not thought much of it.' This gentleman's countenance was dull, and his cheeks reddish; the eyes heavy, and the conjunctivæ slightly yellow; tongue not much coated, and moist; pulse 80, of moderate strength; breathing at the time of examination not accelerated; bowels sluggish; urine occasionally depositing a sediment. His appetite, he said, was 'too good', and he slept well, and the temperature of the skin was but slightly above the natural standard. Upon baring the chest for the purpose of making a stethoscopic examination, I found that the ribs upon the right side acted less freely than on the left, and over a very large portion, nearly two-thirds of that lung, the respiratory murmur, (unaffected by position), was almost inaudible, while the sound elicited by percussion was characteristically dull to a corresponding extent.

"This case required a steady perseverance in the treatment presently to be advised, before a return of the feelings of health could be obtained, and which occurred simultaneously with the restoration of the natural breathing.

"The affection is essentially characterised by negative results, viz., an absence of symptoms evidencing serious interference with healthy respiration. We have seldom rigor complained of at the onset; the countenance, although dull and heavy, is not anxious; debility is almost universally complained of as a leading symptom; there is in general no severe pain; the cough, if there be any, is not distressing, and the amount of expectoration either inappreciable, or if more abundant, it is untinged mucus; the breathing may be short, but not sufficiently hurried to attract much attention; the *alæ nasi* are quiescent; the skin is in general moist, and free from that pungent heat so characteristic of the more acute form of attack; the pulse is either natural in frequency, or but slightly accelerated, rarely above 90; the urine is for the most part free from deposit, and in sufficient quantity. The physical signs, however, are well marked, and will, if carefully sought for, unfailingly indicate the true nature of what, without this aid, must often be doubtful and embarrassing.

"The tendency of this form of pneumonia, so far as my own observations

have led me to observe, has been towards recovery. Tedious—very tedious, both to patient and practitioner, it will sometimes prove; but I have not found, provided that the subject of the attack be not already labouring under phthisis, that it either predisposes to, or merges into that malady.

“The cause of this disease is not, I believe, so much attributable to cold as to a disordered condition of the primary and secondary assimilative processes, inducing as a consequence a morbid state of the blood itself; this, by depressing nervous power, subsequently causes, in its transit through the lung, irritation and congestion, followed by adynamic inflammation, with exudation. The disease may pass through its different stages with so little disturbance to the pulmonary organs, that, as in the case above referred to, the patient will attribute his disordered feelings to any but the right cause.

“Since writing these notes, I have seen another instance, in which the patient, unconscious of the existence of any serious lung affection whatever, (but in whom, nevertheless, more than one-half of the left lung was in a consolidated state), attributed all his discomfort to an affection of the stomach.

“The treatment that I have hitherto found to be the most beneficial has been chiefly confined to counter-irritation, the guarded introduction of mercury, (with a view to the correction of morbid secretions, and carried to the extreme of very slightly affecting the gums), the iodide of potassium, and cod-liver oil.

“Venesection is in no case called for, as a dangerous degree of depression may be expected to follow the use of depletory measures. Cupping, or even leeches, will seldom be needed, unless an unusual degree of pain be complained of, which is quite contrary to what ordinarily obtains. Blisters will be found to be of signal service, and these must be repeated again and again, not kept open, but permitted to heal; and their renewal, as well as any change of locality, must be influenced by the result of carefully-repeated stethoscopic investigation. Should any indication of an indurated portion of lung remain after the application of from three to five blisters, at weekly intervals, a strong solution of iodine, (one drachm of iodine, and half a drachm of iodide of potassium, to one ounce of rectified spirit), painted, if it can be borne, once daily over the affected spot, will be found at this stage very useful. If the secretions be much deranged, small doses of the hydrargyrum cum cretâ should be given, slightly, and only slightly, to affect the gums; or what will then be found to be a still better form, is the bichloride, in doses of one-sixteenth of a grain, night and morning. Iodide of potassium, with alkaline salines, will be called for, to be followed by cod-liver oil, in doses from a teaspoonful to a tablespoonful thrice a-day. This latter remedy has given me much satisfaction in the treatment of pulmonary indurations of an adynamic character; and it has exerted a very marked influence in promoting the absorption of morbid exudation. This, I presume, it can alone effect by improving the condition of the general health.”

REPORTS OF SOCIETIES.

SURGICAL SOCIETY OF IRELAND.

MARCH 6, 1852.

MR. TRANT IN THE CHAIR.

ON THE ADULTERATIONS AND SUBSTITUTIONS OF MEDICINES. BY SIR JAMES MURRAY, M.D. From this essay it appears that *compound jalap powder* is occasionally made with jalap and alum, and *compound ipecacuanha powder* (Dover's powder) of tartar emetic and linseed meal. Sir James Murray stated that he was acquainted with a very simple mode of discovering whether cod-liver oil was adulterated with vegetable oils. Some years ago he had observed in a cotton factory that where an animal oil was used the brass works did not become green, as they invariably did when a vegetable oil was used. Applying this to cod-liver oil, he placed a small copper capsule, containing the pure oil, in a sand bath, without any copper salts being produced, while the spurious imitations threw up a quantity of salts of copper, forming a green margin on the vessel.

CASE OF UNUNITED FRACTURE OF THE HUMERUS. BY DR. DARBY. After various means had been tried without success, the limb was amputated by the patient's urgent desire. No cause for the non-union could be detected.

ON THE CANCEROUS DEGENERATION OF WARTY EXCRESCENCES, AND THEIR TREATMENT. BY R. G. H. BUTCHER, Esq. Mr. BUTCHER related several cases in illustration of this interesting subject.

CASE I. A. S., aged 52, applied in May 1850, suffering severely from a large, painful, ulcerated tumour over the right eye. A wart about the size of a pea had existed above the eyebrow from childhood: eleven months previous to her seeking advice it became painful and itchy; she frequently tried to pick it away, and often pulled out long shreds, the separation of which was always attended with sharp and often continued pain, and usually with a smart flow of blood. About this time, too, the swelling rapidly increased, with a red margin round it; soon the warty excrescence was cast off, and an ulcerated surface, about the size of a shilling, lay exposed, which was elevated, hard, and circumscribed, yielding a thin yellowish discharge, with persistent pricking pain of various degrees of intensity. The tumour continued to enlarge, spreading its base by the accession of fresh nodules, which never rose higher than half an inch above the healthy parts; the integuments thus appeared to ulcerate around, the destroyed part being supplanted with firm elevations, which, in their turn, coalesced, and became convex, thus preserving the nodulated character of the entire surface. Thus the base extended upwards on the forehead, inwards and beyond the mesial line, externally towards the temple, and down upon the cheek, and inferiorly so as to involve and depress the upper lip, and compromise vision in the right eye. The ulcerated surface measured round its circumference ten inches. The surface of the sore was nodulated, hard, and firm almost as cartilage, yielding a discharge thin, yellowish, and watery, profuse in quantity, and emitting the odour pathognomonic of cancer. Eight months after the commencement of the disease in the forehead, a tumour began to form in the upper part of the parotidian region; it was at first attended with most severe darting pain through the ear, up along the side of the head, and forwards towards the face, thus averting sleep for nights, even before there was any appreciable swelling. At this time the pain was most agonizing; but it gradually declined as the bulk of the tumour was augmented. The

size of this secondary growth was about that of a split orange, and its outline was not regular. From a careful consideration of the phenomena attendant on this tumour, Mr. Butcher concluded it was of encephaloid formation. In about five weeks the most prominent part gave way, and a fungus shot out, never attaining beyond the size of a large fig, and emitting from its centre, at intervals of a few days, repeated arterial hæmorrhages, some of them to the extent of several ounces. She struggled on for two months, when she died from the debility consequent upon those frequent losses. A fine section of the original tumour showed the basis to be made up of fibrous tissue, having embedded in its structure numerous nucleated cells; many with nucleoli. The addition of acetic acid rendered more conspicuous the nuclei at the expense of almost the dissolution of the cell-wall. On subjecting a piece of the tumour to pressure, a juice could be expressed, it yielding an abundance of cells similar to those in the section. Numerous granular bodies also floated through the fluid. After the tumour behind the jaw had burst, and the fungus shot out, Mr. Butcher introduced a grooved needle about an inch deep, and withdrew some of the morbid product. There was a profusion of nucleated cells, supported with delicate filamentous tissue. There were no caudate corpuscles.

CASE II. J. M., aged 70, a healthy-looking woman, who had been mother of ten children, consulted Mr. Butcher in January 1849, for a small tumour beneath her chin in the mesial line. A wart had been there from childhood, but within the last four months the irregular surface had become smooth, larger, and extremely painful. She had frequently pressed the tumour to allay the pain, which often induced it to bleed, and then the annoyance in a measure subsided. When this patient was first seen, the tumour was about the size of a marble, smooth and polished, with a semitransparency over it, of stony hardness, and quite moveable. There was also a warty growth, larger than a pea, a little above the chin and to the left side. This had also existed from infancy, and never gave her any uneasiness. The tumour beneath the chin was removed in January 1849. During nine months after the operation she remained free from disease. About the end of this time, the wart, which had been permitted to remain, began to spread and get painful. The cicatrix resulting from the operation became tender, tumid, and ultimately gave way by an ulcerated fissure, which rapidly grew wider, yielding a profuse ichorous discharge. In about a fortnight, a fungous growth spread around the sulcus formed in the first instance, of the shape of a mushroom and the size of a crown-piece, its margin resting upon the sound skin. Mr. Butcher declined interfering by operation, there being a deep sinus leading backwards towards the line of lymphatics, parallel and beneath the anterior margin of the sterno-mastoid muscle. Again, the root of the disease was struck so deep, and the width of the contaminating base so widely spread, that even the most expert operator could not be satisfied that the entire was removed. Palliatives were again ordered, and she returned to the country. The warty excrescence joined the disease, the two having coalesced and become inseparably united. During the last four months two additional tumours had formed, one on either side of the neck, in the line of the absorbents, manifestly of encephaloid nature. Their springiness and elasticity, their colouration, and microscopic examination, confirmed the opinion of their being true cephaloma. In this miserable state she endured, the gravity of the symptoms having been greatly increased, pain giving rise to the most intolerable suffering, the features being haggard and pinched, and the skin of a dull ochry colour, debility and emaciation having made rapid progress, and all the functions of the economy more and more becoming implicated in the deteriorating influence of the disease.

In this condition (in December, 1851), she went back to her family in the country, to await her final release from suffering, which, to all certainty, was not far distant.

CASE III. E. F., aged 65, had a large bleeding wart above and behind the right ear; it was attended for some time with repeated hæmorrhages. It had been there for many years, but never created any annoyance until about six weeks before seeking advice, after a bruise occasioned by a water pail. Shortly after this, "the wart became very sore", and soon intense pain set in, darting up along the side of the head, down towards the angle of the jaw. A highly irritable and inflamed base surrounded the tumour, which was about the size of a shilling, uneven, and elevated about half an inch; it was hard to the touch, and bled upon the slightest pressure. Mr. Butcher removed this tumour with great care, cutting wide of the base. The wound healed perfectly in three weeks by granulation. For eight months she continued quite well. After this time, she felt uneasiness behind the angle of the jaw on mastication: by degrees the part became tense, and then she felt a small tumour there. The swelling continued to increase, and when it attained such magnitude as to fill up the angle of the jaw, she began to suffer from paralysis of the facial division of the seventh nerve. Day after day the tumour extended itself, particularly in the direction of the site of the original excrescence. At this time she again sought Mr. Butcher's advice. A tumour, considerably larger than an orange, filled up the space between the angle of the jaw and the mastoid process; it was lost upwards towards the zygoma, passed downwards on the neck behind the ear, and implicated the structures attached to the occipital bone: uneven, projecting, and lobulated on its surface: fixed, irregular, and immovable at its base. The colour of the tumour was very remarkable. Large veins traversed it in every direction, some of them lying, as it were, in grooves on its surface; while numerous vessels marked the colouration in a peculiar way, constituting what might be called a number of vascular spots, from which capillaries radiated in every direction for a short distance, ultimately breaking up into a fine ramiform distribution.

During the following thirteen months a part of it ulcerated, and a fungus shot out, attended by small hæmorrhages. In January 1852, she took typhus fever, and died on the tenth day. An examination could not be obtained.

Most of the cases of cancerous degeneration which Mr. Butcher has observed, have occurred in old persons; but he has also seen the change brought about in early age.

CASE IV. M. W., aged 19, a particularly handsome girl, of dark complexion, consulted Mr. Butcher in February 1849, for what appeared a very irritable wart, situated on the forepart of the neck. It had been there as long as she could remember, but latterly it had increased and become very painful, which she attributed to the pressure of her dress. The tumour was the size of a filbert, hard and irregular on the surface, which at the highest point was elevated about a quarter of an inch. It was quite moveable, placed about the centre of the depression situated above the sternum, and three-quarters of an inch from its upper margin. The patient's mother had died of cancer. The part was removed. Union by the first intention was nearly accomplished on the fourth day, and in less than a fortnight the part was healed altogether. During the three years which have elapsed, there has been no return of the disease, either in the cicatrix or elsewhere.

The specimen yielded epithelial scales, in various conditions and stages; some compressed together, forming laminæ, whilst deeper ones assumed a somewhat square form, some of them a caudate shape, whilst around the base there were evident cancer-cells. When separated and broken up, they did not at all seem disposed to run together. They were nucleated, some with nucleoli, which, on the addition of acetic acid, were rendered more distinct, and the cell-wall was nearly dissolved, while the other cells resisted its action with impunity.

Mr. Wardrop records a very remarkable instance of this cancerous degeneration of a wart, occurring in a girl about 12 years of age, on the lower

part of the abdomen. (WARDROP'S *Observations on Fungus Hæmatodes*, p. 189.)

CASE V. The supervention of fungus hæmatodes, after the removal of a large wart from the inner side of the foot, is well exemplified by the following case:—M. M., aged 28, was admitted into Mercer's Hospital, October 1846. In the preceding February she was received into the house for the removal of a large painful wart, the size of a half-crown piece, situated on the inner side of the left foot. It was very painful and irritable, and was deeply ulcerated round its base. At this time there was no evidence of internal disease, and the lymphatic glands of the extremities were neither indurated nor enlarged; therefore, Mr. Tagert removed the part without difficulty; it was quite loose. The wound quickly healed, and in three weeks she returned to the country. Her second admission was nine months after this operation, when she was received with far advanced encephaloid disease in the groin of the same side. The history of the tumour in the groin was as follows:—For five weeks after her return home—two months from the period of the operation—she was free from all disease. At this time “a kernel” appeared in the left groin; it continued to increase for a month, and attained the size of a small apple, when it remained stationary for a short time. Up to this period there was very little uneasiness in the part. After this, the tumour began again to enlarge, with a “bursting sensation” in it. During the following months her sufferings were greatly augmented, the tumour widely extending itself in all directions, being irregular and nodulated on the surface, and highly sensitive. Just before admission the most prominent part burst, and she lost a quantity of blood. The tumour was larger than the clenched hand, accompanied by darting pains occasionally through it; an indescribable sensation of tension was always located in the upper half of it, and here, too, was a black spot marking the site from which hæmorrhage had proceeded a few days before.

Nov. 10th. Since her admission, the increase of the tumour had been most rapid; it now measured ten inches and a half transversely, and seven and a half from above downwards. Its colour was now of a dark purple and reddish hue all over. Its surface was irregularly lobulated, and deprived of skin, with the elevations coated over by a semi-opaque fluid, and the depressions containing unhealthy watery pus. The constitution was sympathising acutely with this mass of local disease. Hæmorrhage to about two ounces occurred on the 13th; and to about a pint on the night of the 17th.

Nov. 19th. At six o'clock in the evening, bleeding began again, at first slowly, and was staunched by lint dipped in muriated tincture of iron. In two hours after, it broke out afresh, became perfectly uncontrollable; and she died under the loss of blood.

EXAMINATION OF THE BODY. A tumour as large as a small melon, of the same nature as that in the groin, filled the iliac fossa of the same side; it was intimately attached to the fascia, and implicated the muscles in this region. The iliac artery and vein ran through its base, and below Poupart's ligament the femoral artery and vein were surrounded by the encephaloid structure situated there. This may account for the fact of the total uselessness of pressure over either of the trunks in arresting the fatal hæmorrhage. On slitting up the artery and vein through their entire extent as they traversed this diseased mass, no solution of their integrity could be found. Vessels of considerable size, both arteries and veins, however, could be discovered through the structure, with their patulous extremities. These were very numerous, and evidently the source from which the blood issued in such quantities. The patulous condition of the arteries, as well as the veins, Mr. Butcher ascribed to the matting of the coats of the vessels with the surrounding tissues, thus neutralising their contractile power. The softer parts of the tumour, on section, exactly resembled the brain in a state of decomposition.

CASE VI. The late Mr. Palmer had a case very analogous to the last, under his care, in Mercer's Hospital. The patient was a young woman only twenty-four years of age. She had a flat painful wart on the inner side of the knee; it was there for years, but having become very irritable and ulcerated, and bleeding from the least injury, she solicited for its removal; it was taken away by the knife, and the part healed favourably. She returned to the hospital in five months after; the glands in the groin of the same side being enormously enlarged, and all the structures in the inguinal region participating in the encephaloid degeneration. She died before the end of the month after the operation, of repeated and profuse hæmorrhages.

REMARKS. The above cases are examples of only one condition of the skin preparatory to ulceration and malignancy; that is, when there exists an indurated watery tumour, and this Mr. Butcher conceives to have a cancerous tendency *ab initio*. The small growth may be unproductive of inconvenience for years, until irritated; then the characteristic pain, sharp and lancinating, never entirely deserts it; ulceration sets in, making breaches round its base, and proceeds to the detachment of the watery surface. During this time, a thin fluid exudes from underneath; hard firm granulations are thrown up from an indurated base, not rising very high, yet presenting a mammillated surface, far denser than the interior of the projecting nodules. The destructive process presents two very striking characteristics, and essentially belonging to it—1st, that when once the ulcerative process is set up, there is never any amelioration, ever so temporary, no attempt at cicatrization; and 2nd, the great liability of the appearance of encephaloid disease, either in the site of the original tumour, or in the line of the absorbents, returning from its position. Here, then, are two marked differences as to results between it and *noli me tangere*, and the *destructive ulceration* accurately described by Dr. Jacob.

In the cases Nos. I, II, and III, the germ of disease lay, as it were, innocuous; its malignant tendency did not manifest itself until a very advanced period of life, at the respective ages of 52, 70, and 65; while in the cases Nos. IV, V, and VI, it was ushered into existence at a much earlier age, 19, 28, and 24; while in Mr. Wardrop's case, the subject, a little girl, was only twelve years old.

When once the ulceration was fairly established in the primary tumour, true encephaloid disease rapidly sprung up, either in its site or in its immediate locality, with the exception of case No. IV, successfully extirpated. Again, in every instance, all the changes were brought about more speedily, and death followed more quickly, in proportion to the youth of the patient.

The inferences deducible from the results of these several cases, relative to treatment, point to the practical precept of early extirpation. We have evidence of its beneficial results in case No. IV, though ulceration, with its characteristic attendant symptoms, had just manifested themselves; the part was excised, the wound healed, and there has been no return of the disease for over three years.

In cases Nos. II, III, V, and VI, the operation was probably had recourse to after the lymphatics and capillaries were charged with the product of the cancerous alteration; and though in some instances the wounds readily healed, yet in a short time the secondary results, the effects of the absorption, manifested themselves in the form of encephaloid disease. Mr. Butcher would advise all warts, when situated on the face or elsewhere, to be removed by the knife as early as possible, no matter how youthful the patient may be, as they all have a tendency in advancing years to degenerate.

ENCEPHALOID TUMOUR OF THE ABDOMEN IN A VERY YOUNG CHILD. By DR. BANON. DR. BANON exhibited an instance of encephaloid disease which he had met with in a child of about 13 months old. About four months after birth, the child was first seen by Mr. Packenham, who then observed a slight

swelling immediately below the liver, and apparently owing to an enlargement of that organ. The swelling, however, soon increased in size, and passed on towards the umbilical and epigastric regions, so as in some months to distend the abdominal cavity completely. This was the child's state when Dr. Banon first saw her. At this time, though the little patient took a large quantity of nourishment, it lost flesh and strength. It did not, however, appear to suffer pain until the last six weeks of its life, when the action of the bowels caused some suffering, owing to the mechanical obstruction. The nutritive function was seriously interfered with. At some points below the umbilicus, examination gave the idea of fluctuation; and, on afterwards examining the tumour, the portions of it corresponding to these points were found to be composed of pulpy, brain-like matter, in almost a semi-fluid state. The child at length began to suffer from severe dyspnoea. Respiration could only be heard in the upper part of the thorax, into which the lungs had been pressed by the growth of the tumour. The rest of the thorax was dull on percussion. The heart had been displaced upwards, and to the left side; and in this state the little patient sank.

On opening the abdominal cavity the enormous mass showed itself. It presented all the usual characters of encephaloid cancer; and also the nucleated cells and minute arrangement of structure peculiar to these growths were recognised under the microscope by Dr. Carte.

CASE OF EXTENSIVE ENCEPHALOID DISEASE IN THE ABDOMEN. BY DR. BELLINGHAM. DR. BELLINGHAM exhibited a recent specimen of encephaloid deposit in the abdomen, taken from a subject whom he had examined that morning, which appeared to be remarkable for the rapidity with which it had been developed.

The patient, a French woman, unmarried, aged 56, was admitted into St. Vincent's Hospital, under his care, February 14, 1852. She stated that she had been seriously ill only two months. About two months before last Christmas, after walking a distance, she observed a small tumour in the left groin, accompanied by some pain; very soon afterwards she noticed a swelling above the pubis towards the left side, which had gradually increased, and now formed a considerable swelling. A month ago she began to suffer from urinary irritation. The ankles were oedematous for the last fortnight.

On examination the abdomen was tumid and tense, with blue veins coursing over it. Below the umbilicus, and towards the left side, the edge of a solid tumour could be felt reaching from near the umbilicus to the left inguinal region, and extending across the pubis; handling it did not cause much pain. She laboured under irritative fever, was much emaciated, and suffered considerable pain in passing urine. She gradually sank, and died early in the morning.

On examination, the large tumour felt during life below the umbilicus was found to consist of a mass of encephaloid involving the bladder and uterus, and diminishing considerably the capacity of the former. An enormous number of tumours of the same character, and of every variety of size, were connected with the omentum, the mesentery, and the intestines. The liver was small, apparently healthy, and free from morbid deposit.

CASE OF PAINFUL SUBCUTANEOUS TUMOUR. BY DR. BELLINGHAM. DR. BELLINGHAM exhibited a painful subcutaneous tumour, which he had removed from the leg of an unmarried female, aged 27.

MARCH 20.

DR. JACOB IN THE CHAIR.

CASE OF TUMOUR OF UTERUS. BY DR. BANON. DR. BANON exhibited a specimen of disease of the uterus; it was a firm resisting tumour. It was composed of a number of lobes connected together by loose cellular tissue,

and when firm pressure was made upon it, an exudation of a creamy-looking fluid took place. The woman, who was the subject of the case, was taken into the hospital for phthisis, and it was a remarkable fact that there was no symptom whatever which was likely to call attention to the uterus.

The patient ultimately died of phthisis, and on making an examination of her body, this tumour was discovered between the muscular fibres of the fundus of the uterus. On the day preceding her death she was menstruating, and continued to menstruate up to the time of her death. She was about 35 years of age, had not been married, and had never borne any children. The cavity of the uterus was larger than would be expected in a virgin; a cyst was attached to one of the ovaries, containing a small quantity of fluid, and a hydatid hung from the same ovary. Dr. Carte discovered cancer-cells in the tumour.

A discussion followed on the use of the microscope, as a means of diagnosis. Its legitimate use was ably defended by Dr. Carte.

ON THE EMPLOYMENT OF CHLOROFORM IN MIDWIFERY. By DR. BEATTY. Within the last two years, DR. BEATTY has used chloroform very extensively, and with the happiest results. He has given it to every patient who desired to have it, unless he saw some good reason to refuse it. He has not pressed it upon any; in all cases its use has been productive of the greatest relief and happiness, and in no case has anything unpleasant occurred to either mother or child.

The application of chloroform in midwifery is very different from its employment in surgical practice. In the latter, we have a person not suffering any pain, on whom a painful operation is about to be performed, and in whom it is desired to induce such an amount of insensibility as will render him unconscious of the proceedings of the operator. The sopor in such a case is much deeper than any that is necessary in obstetric practice. The time during which anæsthesia is required is usually much shorter, and the more intense effect of the chloroform is therefore more safely produced than if it were to be continued during the length of time sometimes necessary in labour. In midwifery, on the contrary, the use of chloroform is not begun until the patient is already, and has been probably for some hours, in a state of suffering. The object in such a case is to relieve existing pain; and it is a fact no less remarkable than true, that a smaller amount of the narcotic vapour is required to effect this, than to render a non-sufferer insensible to a painful operation, and a larger amount is subsequently borne with impunity. For this reason it is, that when a pure drug is employed, a very few inhalations from the apparatus which I now employ are sufficient to produce a decided effect upon the sufferings of the patient; and a relief so marked as to be spoken of with the greatest satisfaction and gratitude, is obtained long before any approach to insensibility is perceived.¹ But this

¹ Since this paper was read before the Surgical Society, I have seen in the *Dublin Medical Press* of the 24th of March, a quotation from a communication in the *American Journal of Medical Sciences*, by Professor Byford, of Evansville Medical College, U.S., which bears upon this point: "I am led to believe that, in estimating the beneficial or injurious influences likely to be exerted by this powerful medicine, our attention has not been sufficiently directed to the condition of the nervous system, particularly in regard to the presence or absence of pain, or other preternatural excitement. I apprehend that we will find the same laws governing our physical system to obtain with respect to its use, as we are compelled to take into account when we call to our aid any of the powerful narcotics, one of which laws is the preservation, in a great measure, of the general system, by the nervous system being preoccupied by exalted or morbid excitement. This principle may account for the fact, borne out, I think, by statistics upon the subject, that the untoward and melancholy effects of chloroform seldom, if ever, occur in cases where the system is labouring under great pain, as for instance, labour, tooth-ache, etc."

is not enough for the occasion ; the effect has to be kept up sometimes for many hours, and if a sopor as deep as that induced for surgical purposes was necessary, no doubt the proceeding would not be unattended with danger : but, fortunately, in midwifery practice no such amount of narcotic influence is required. The slow and gradual administration of small quantities of the vapour, renewed from time to time, as required, will be sufficient to keep the patient in a tranquil, happy state, in full possession of her consciousness, for hours together, talking to her friends about her, knowing well when a pain is coming on, applying the inhaler to her lips, and asking to have the chloroform replenished when its effects are diminished by its consumption.

The course of a labour treated with chloroform is usually as follows. Take, for instance, a first case, in which labour has been going on for eight, ten, or twelve hours, with that increasing amount of suffering which all females experience until the os uteri is nearly dilated. At this time we know that the pains usually become most severe ; and the patients lose their self-control, becoming uneasy, impatient, and loudly complaining of the sufferings which they undergo. If we now commence the judicious use of chloroform with a patient, under these circumstances, the first effect, after a few inhalations, is calmness. Instead of tossing about in the bed, she becomes perfectly quiet, she experiences relief, and the friends who are standing around begin to be astonished at the almost instantaneous effect that has been produced. They had become anxious at the amount of suffering she seemed to be undergoing, and they are surprised at the calmness which has been brought about through the assistance of chloroform. They sometimes say,—“ Oh ! this is so delightful, so pleasant ;” in fact, a feeling of inexpressible happiness is produced in most patients by inhaling the chloroform, for perhaps two or three minutes. Dr. Beatty has seen a patient, who was tossing about in her bed, perfectly uncontrollable, because to a certain extent delirious, as they often are ; I have seen such a patient lie calmly and quietly down, without any stage of excitement, and remain so for the space of four or five hours without for one instant losing her consciousness or self-control, or making loud exclamations, or removing herself from the position in which she was directed to remain.

The next effect which is produced by the judicious administration of chloroform is the total disappearance of that horrible aching in the back which patients complain of in the intervals of the pains, and which makes them call on the nurse not to relax the pressure which it is usual on such occasions to make on the back. This intolerable ache is never felt after the administration of chloroform has begun ; so long as it is kept up, the distress is done away with. After some time, the patient will call out loudly for more chloroform, feeling the benefit which she has derived from the previous administration of the agent. We accordingly let her have a little more, and by degrees she becomes conscious of the approach of the pains, she takes the medicine again, and in this way passes hours without suffering. Some patients will sleep in the intervals of the pains. We know how valuable such natural rest is during labour ; and the administration of chloroform does not in the least degree interfere with it ; on the contrary, it rather helps to produce natural sleep, when not pressed to the extent of sopor or insensibility. As the time of delivery approaches, the amount of chloroform to be given should be rather increased, because the patients suffer more at this time than at any previous stage of their labour ; and it will require a larger amount of chloroform for the purpose of alleviating pain, though not enough to produce the full effect which is produced in surgical practice ; in fact, in no case will it be necessary to produce sopor or stertorous breathing in the course of the labour ; and the patients, when the labour is over, will tell you that they knew they had the pains, but did not feel them. In this way, patients have been delivered of their child without their knowledge.

If the chloroform be pure (and that is a most important point), one of the effects said to be produced by it is completely avoided, and that is, the stage of excitement. Dr. Beatty never now sees any instance where excitement is caused by it in his own practice. There is no excitement, no bewilderment, and the effect at once is that of calm; but if the chloroform be not pure, the tumbling, and tossing, and delirium, which have been ascribed to its employment, will be produced.

The longest time he has used it in labour was five hours, and the shortest time a quarter of an hour.

The manner of using the chloroform is different from what it is when we want to produce anaesthesia for surgical purposes. In the latter case we give it as rapidly as the case will permit, so as to produce an immediate effect on the constitution. The reverse, however, is true in midwifery practice; for there it should be given very gradually, and increased in proportion as the sufferings of the patient increase; and therefore the apparatus should not be the same in midwifery as in surgical practice. Dr. Beatty formerly used a handkerchief; but now prefers an apparatus of the kind used and recommended by Dr. Murphy of University College.

The apparatus alluded to is evidently a modification of the instrument formerly used by Dr. Simpson for the administration of ether, and called by him the "ether flask"; from which it differs principally in being furnished with two valves on the upper surface; one opening inwards to admit atmospheric air into the mouth along with the vapour of chloroform, the other opening outwards to admit of free expiration. It consists of a small round chamber, about two inches in diameter and one inch deep, in which a piece of sponge is placed, and to which a conical mouthpiece is attached, just large enough to cover the mouth of the patient. The aperture by which the mouthpiece and chamber communicate is about three-fourths of an inch in diameter, and is stopped by a cork when the instrument is not in use; the opening by which the sponge is introduced into the chamber is on the upper surface, and is about an inch and a half in diameter, and is closed by a well-fitting cover, in which is the valve for the admission of atmospheric air. The manner of using is simple enough. After pouring a teaspoonful of chloroform on the sponge, previously moistened with water and well squeezed, the mouthpiece is loosely applied to the mouth of the patient, and she makes a few inspirations. By the nose being left uncovered, and by means of the valve in the cover, a large portion of air is admitted along with the vapour of chloroform, and thus it gains access to the lungs in a diluted state—a circumstance essential to the safe and satisfactory use of chloroform in midwifery practice.

If there is any difficulty in getting the patient to inhale properly, it is only necessary to lay hold of the nose, and tell her to suck the chloroform out of the tube, and she will very soon learn the proper way of doing it. By means of an apparatus of this kind, we can keep a patient for any length of time calm, tranquil, happy, and free from pain, no matter how protracted the labour may be, and without for one moment rendering her insensible.

The dose can be properly graduated with the instrument; we can put in as much as we like, and we can be certain that no more will be inhaled by the patient; whereas on the handkerchief, she may inhale a great deal more than we wish her to get. In this way, one drachm will go as far as an ounce will go on a handkerchief.

Of thirty-three cases in which Dr. Beatty used chloroform within two years, two of the patients had the chloroform for five hours, (both first cases); two for four hours, (one being a first case); three for three hours, (two being first cases); four for two hours, (three being first cases); four for an hour and a half, (two being first cases); six for one hour, (two being first cases); twelve for periods under half an hour. Total, thirty-three cases.

Of the foregoing cases—one was of thirty hours' duration; three of twenty-

four hours ; three of twenty hours ; one of fifteen hours ; eight of ten hours ; fifteen of five hours ; and six under five hours.

In a paper published two years ago in the *Dublin Quarterly Journal*, Dr. Beatty advocated the using of ergot of rye, in conjunction with chloroform, in certain cases.

As, perhaps, as good an example of the value of the combination of these medicines as could possibly be presented, he mentioned the particulars of a case that had occurred to him. He attended a lady, whom he had delivered on some former occasions, and who had had several children before she became his patient ; and, as we sometimes perceive, it happened with this lady that the great majority of her labours were of a preternatural character. She had shoulder-presentations four times, a couple of breech-presentations, and several premature children of four and five months. Upon the present occasion her labour commenced early in the morning, about three o'clock, and the pains were exceedingly weak for twelve hours afterwards, at which time Dr. Beatty was sent for, and on arrival he found an arm presenting at the os uteri, which was then dilated to the size of a half-crown piece, and very soft, with the membranes still unbroken ; but the uterine pains were very weak and unfrequent. She had already experienced the torture of turning too often not to dread a repetition of the process ; and she had made up her mind that if it was a cross-birth she would have chloroform administered, as she could not venture to face turning again without it. At the labour which preceded the one now described, she had been near dying from hæmorrhage. Here, then, was a case of arm-presentation, an inert uterus, a lady calling for chloroform, and turning absolutely necessary. What was to be done ? If Dr. Beatty turned the child under the existing circumstances, and emptied the uterus, which was so little disposed to contract, he would run a risk of producing a hæmorrhage as terrific as that which followed her previous labour. He therefore commenced by giving a dose of the ergot of rye, and watched its effects. As soon as the pains became in the least degree quickened, he commenced the use of the chloroform. She inhaled it for two minutes, and then he passed in his hand, ruptured the membranes, and got the child turned. The whole operation did not last ten minutes ; scarcely a drop of blood was lost, and when it was over, she told him that she would not care again about having a child to be turned, provided she suffered no more than she did on that occasion. Dr. Beatty impressed on the Society the importance of only using chloroform which is genuine and pure ; for, when properly prepared and judiciously used, it is one of the greatest blessings which has ever been introduced into the practice of midwifery.

TOPICS OF THE DAY.

London, 27th September, 1852.

JOURNALISM. Under this heading, in last month's number, we alluded to important coming changes in the management of two medical Journals; and we have now to call attention to a notice to our readers at p. 957, in which the effects of these changes are stated.

In addition to the LONDON JOURNAL OF MEDICINE, the *Provincial Medical and Surgical Journal*, and the *British and Foreign Medico-Chirurgical Review*, it appears, that the *Medical Times and Gazette* has also experienced a change. Dr. Bushnan's valedictory address has appeared, and a valued contributor to this Journal has accepted the editorship.

SCARBOROUGH SEA-BATHING INFIRMARY. We understand that this institution, of which we formerly spoke, (p. 870) is not likely to be permanently benefited by recent exertions, as its officers are regarded with jealousy by the majority of the medical practitioners of the town. It appears that Dr. Alexander, the author of the letter to the *Lancet*, from which we quoted, has left Scarborough, and consequently resigned his post at the Infirmary; and a correspondent avers that, after all, "homœopathy was only made a scape-goat for an act of injustice".

LAST HOURS OF THE DUKE OF WELLINGTON. Mr. HULKE has published the following statement in the *Medical Times and Gazette*.

"155, Lower Street, Deal, September 21, 1852.

"Tuesday, September 14. About half-past eight this morning my father received a note from Walmer Castle, stating that the Duke of Wellington wished to see him. He immediately went to the Castle. His Grace complained of uneasiness about the chest and stomach; was then perfectly conscious, and answered questions put to him with correctness. Some medicine was ordered; and during its preparation His Grace took some tea and toast. Shortly after leaving the Castle, my father received another communication, stating that His Grace was much worse; he had had fits similar to those he was subject to. My father and I went directly, and found His Grace in bed, unconscious; eyes turned a little upwards, fixed; pupils of medium size; skin warm and moist; respiration very laborious, from accumulation of mucus in air tubes. Before our arrival his valet had applied a mustard poultice to his chest, as on a former occasion this had given relief.

"Dr. M'Arthur soon arrived, and Drs. Hume and Fergusson were telegraphed for.

"Dr. M'Arthur advised a mustard emetic to be given, having prescribed one with advantage for the Duke several years ago under similar circumstances. This and other measures were now of no avail. His Grace became very restless, tried to turn on his left side; occasionally there were slight twitchings of the left arm. When raised in bed, his breathing was much more free, and this induced us to place him in an easy chair, when his respiration became much less embarrassed; his pulse sank, and His Grace was now placed more horizontally; the pulse rallied for a little time, and then gradually declined; the breathing became more feeble; and, at twenty-five minutes past three o'clock P.M., His Grace breathed his last. So easy and gentle was the transition, that for the moment it was doubted. A mirror was held before His Grace's mouth; its brightness was undimmed, and he was no more:

"JOHN WHITAKER HULKE."

PUBLIC BATHS. The multiplication of these invaluable institutions must be regarded as one of the cheering signs of the times; inasmuch as cleanliness is eminently conducive to good morals and sound physical health. We learn that Sir Charles Hastings, the founder of the Provincial Medical and Surgical Association, has just laid the foundation stone of public baths at Worcester. The architect is Mr. F. T. Barbe.

OBITUARY.

BROWN, Thomas, M.D.Edin., 1799, and M.R.C.P. 1810, of 6, Queen Ann Street, Cavendish Square, at his country residence, Tostock, Suffolk, aged 76. Dr. Brown was at one time Senior Physician and afterwards Physician Extraordinary to the Royal Sea-bathing Infirmary, Margate. He was the author of a work on Dropsy.

STOATE, James, Esq., Surgeon, late of Brecknock Terrace, Camden Town, at his brother's residence in Bristol, on 15th September, aged 24.

TRIGANEE, Joseph, Esq., late Surgeon of H.M. 30th Regiment, after a painful illness of five weeks, on the 3rd September, aged 63.

WEBB, Sir John, C.B., K.C.H., late Director General of the Ordnance Medical Department, for many years a Justice of the Peace, and Deputy-Lieutenant of the county of Kent, at his residence, Chatham Lodge, Woolwich Common, on 16th September, having nearly completed his 80th year. Sir John was posted Assistant-Surgeon in March 1794; Surgeon in July 1795; Deputy-Inspector, June 1802; Inspector, June 1809; and Director-General in August 1813.

CORRESPONDENCE.

CRYSTALS IN PUTREFYING BLOOD.

In the September number of this Journal, there is a short account of some crystals observed by Dr. Parkes in putrefying blood, which, there can be no doubt from the description, were those of hæmatine. According to my observation, these do not most frequently form in blood that is putrid or far advanced to this state, but in recent blood that has been extravasated a short time in the body. I recently procured some very fine ones, which I exhibited at Dr. Acland's conversazione at Oxford to the Provincial Medical and Surgical Association, by simply adding water to blood which had been effused on the surface of the brain of a cat, in consequence of a wound.

Very lately, I have observed the formation of octohedral crystals in human blood, drawn from a man attacked with hemiplegia. The blood was left several weeks, and decomposed into a kind of sanious gore, which consisted of an abundantly diffused grayish granulous stuff, mingled with numerous particles of dark yellow matter. No blood-globules could be discerned in it, nor any kind of corpuscle, but there were numerous fine octohedral crystals, which resembled precisely those of oxalate of lime seen in the urine, and dissolved away on the addition of a little muriatic acid.

Perhaps this observation may give some increased probability to the opinion entertained by some physicians, that oxalic acid may be one of the intermediate products occasionally formed in the system during the oxidation of sugar into carbonic acid. At least, it shows the *possibility* of oxalic acid being produced in the blood.

C. HANDFIELD JONES.

NOTICE TO OUR READERS.

At the earnest request of some of the leading members of the Provincial Medical and Surgical Association, the Proprietors of the LONDON JOURNAL OF MEDICINE have consented to withdraw their periodical in favour of the New Series of the Journal of the Association. This course has appeared to be both necessary and proper, as a very large majority of our contributors, members of the Association, are now desirous to support their own Journal.

An address issued by the Journal Committee of the Association, and DR. COWAN'S letter to the members, will fully explain the coming changes. In our preface to the volume for 1852 (issued with this number), will be found some additional remarks, to which we beg to call attention.

TO THE MEMBERS OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

GENTLEMEN,—It gives me very great satisfaction to be at length in a position to direct your attention to the following outline of publication which has been adopted by the *Journal* Committee; but I need scarcely remind you that, however abstractedly good it may appear, it can only be accomplished by extensive combination, and the exertion of your individual interests and energies in its behalf.

The most immediate and effective assistance in your power to render, is the obtaining fresh members and forwarding their names to our colleague and editor, Dr. Cormack. Be encouraged by the reflection that all delicacy and difficulty in canvassing are now over, as you can appeal with confidence to the self-interest of every man, having more than a compensation to offer for the sacrifice you wish him to make.

Circulars will be forwarded to those gentlemen who will kindly undertake their distribution; and since heavy responsibility has been encountered, and no small labour expended by the Committee in the execution of the trust you have confided to them, you will, I doubt not, all feel honourably bound to adopt their cause as your own, and to do your utmost to raise our publication to that degree of usefulness, popularity, and influence, to which, if heartily and honestly supported, it cannot fail to attain.

The combining tendency and convenience of a cheap and really good and independent journal, *the property of the profession*, cannot be over estimated; and its becoming, as we trust and believe it will become, the chosen vehicle of expression to a very large proportion of British practitioners, attaches to it a prospective interest and importance which, at first sight, it might not seem to deserve. It may with perfect truth be asserted, that on the success of our Journal depends the retrogression, the stagnancy, or the prosperity of our Association; and if we are ever permitted, in any adequate extent, to carry out those high and noble purposes which heralded our Institution, and still animate our founders, a consummation so desirable can only be efficiently realised by the instrumentality of a vigorously conducted periodical press.

The opportunity for successfully establishing such an agency is now before you, and with yourselves, and not with the Committee, rests the responsibility of failure. I remain, Gentlemen, yours very faithfully,

CHARLES COWAN.

Reading, 20th September, 1852.

ADDRESS OF THE JOURNAL COMMITTEE.

The Committee appointed at the Anniversary of the Provincial Medical and Surgical Association, held at Oxford, July 21st, 1852, with full powers to make the necessary arrangements for editing and publishing the JOURNAL in London, avail themselves of the earliest opportunity of submitting to the members the following scheme of publication, and of earnestly requesting their active co-operation and support.

Of the great superiority of such a periodical, both as regards economy and independence, over every similar undertaking of a merely commercial character, there cannot be any reasonable doubt; and the opportunity now presented to the profession of raising the standard and improving the tone of our medical periodical literature, is one we should eagerly embrace.

The Committee are glad to be able to state that the new series will have the support of a greatly augmented staff of London and Provincial contributors, the proprietors of the LONDON JOURNAL OF MEDICINE having consented to withdraw their periodical and to transfer their influence to the JOURNAL OF THE ASSOCIATION; while in DR. CORMACK they have found an editor whose long experience, acknowledged talents, and high literary qualifications, eminently fit him for the post.

It is intended that the new Journal, while it retains its original character as the organ of the Association, should secure, at the lowest possible expense, all those advantages which a weekly periodical is capable of affording; and that it should, by presenting a faithful digest of medical literature and science, as well as an attractive summary of professional news, render the purchase of any other periodical a matter of choice rather than of necessity.

THE CONTENTS of each number will be usually classed under the following principal divisions:—

- I. LEADING ARTICLES.
- II. ORIGINAL COMMUNICATIONS.
- III. BIBLIOGRAPHICAL NOTICES. [All new books to be noticed.]
- IV. PERISCOPIC REVIEW. [Careful retrospects and summaries, embracing everything that is new and important in all the British and Foreign Journals of Medicine.]
- V. REPORTS OF SOCIETIES. [Faithful, succinct, and early.]
- VI. ASSOCIATION NEWS.
- VII. TOPICS OF THE DAY.
- VIII. OBITUARY.
- IX. APPOINTMENTS.
- X. THE EDITOR'S LETTER BOX.
- XI. ADVERTISEMENTS.

The annual subscription to the Association is One Guinea; which, in addition to the supply of the *Journal*, postage free, includes the other privileges of membership. All legally qualified members of the medical profession (being regular practitioners) are eligible.

The necessary information may be obtained by applying to the General Secretary, JAMES P. SHEPPARD, Esq., Worcester; to any of the Local Honorary Secretaries; or to DR. CORMACK. The JOURNAL will be published at ITS OWN OFFICE, 37, Great Queen Street, Lincoln's Inn Fields, to which address, it is requested that all communications to DR. CORMACK on the editorial business of the JOURNAL may be sent.

In conclusion, the Committee would simply observe, that if the profession prove true to its best interests, the scheme which they have now the honour of proposing must result in effects of great and lasting importance.

CHARLES COWAN, M.D., *Chairman*.

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